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GOVERNMENT'S ROLE IN ECONOMIC COMPETITIVENESS

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GOVERNMENT'S ROLE IN ECONOMIC COMPETITIVENESS

WEDNESDAY, MARCH 25, 1987

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 2:00 p.m., in Room 342, Dirksen Senate Office Building, Hon. John Glenn, Chairman of the Committee, presiding.

Present: Senators Glenn, Sasser, Pryor, Roth, Bingaman, Chiles, Levin, and Cohen.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. The hearing will be in order. Today we begin the first of five hearings that the Governmental Affairs Committee will hold in the next 3 weeks on U.S. competitiveness and trade. The importance of this issue cannot be overstated.

Under the stewardship of the Reagan Administration the United States has had a losing track record in international economic competition. In our 1981 current account balance—the broadest measure of foreign trade—we were in surplus. According to figures released last week we had a current account deficit for 1986 that reached a record $140 billion, almost 20 percent greater than the previous record of $117 billion set in 1985.

Today the United States stands as the world's largest debtor nation, owing foreigners more than $220 billion, about twice as much as that owed by the next largest debtor nation, Brazil. The impact of these deficits is enormous. Roughly 2 million manufacturing jobs have been lost in the U.S. during this administration. Last year, for the first time in its history, the United States experienced a deficit in high technology trade.

And although agricultural exports continue to outpace agricultural imports, the gap between what we sell abroad and what we buy from the rest of the world is narrowing considerably. What represented an annual $10 to $25 billion contribution to the overall U.S. trade balance between 1974 and 1985 actually fell to a mere $5.4 billion in fiscal 1986.

It is clear that in comparison to the recent past the competitiveness of the U.S. economy in the world market place has declined. Gone are the days of our unquestioned industrial preeminence. We are a nation living on borrowed money and time and facing deep-seated problems in production capability in many sectors. It is the purpose of these five hearings to gain insight on what went wrong and to begin to fashion remedies which will reach our entire society.

Let me say at the outset that it is my view that our competitiveness problem is not simply a trade problem. Other areas for long term consideration, such as research, science and technology, education, labor retraining and adjustment, macroeconomic policy, and regulatory and antitrust reform are equally important.

This means that if we are to make America competitive again, in the long term what is required is a comprehensive, multifaceted solution. This set of five hearings is only the beginning. They will provide the Committee with insights on proposed legislation that will be part of an omnibus competitiveness package that will go to the Senate floor in early summer.

However, together with my distinguished colleague from New Mexico, Senator Bingaman, I will be holding hearings on this vital topic throughout the year. I do not believe we can simply legislate our nation's competitiveness in the world economy. The first step we must take is to make a commitment to face the true nature and seriousness of the competitiveness challenge. Like previous problems this nation has faced throughout its history, the competitiveness challenge needs to be recognized as a "positive sum game"—if we work together to become more competitive we all can win.

Legislation, of course, will play an important role, and several of the bills currently before the Committee offer great promise. The commitment to rise to the competitiveness challenge requires a consensus among business, labor, and Government. Legislation can create institutions where opportunities for consensus can be reached.

There are no quick fixes. It is clear that many of the causes of our competitiveness problem are deep rooted and systemic. As a result, fundamental reform is required. And this is because the world economy and America's role as an international competitor have changed dramatically. Today we are far more dependent on trade in a world that contains many more trading powers. About one-fifth of our GNP arises directly from international trade and some 5 million American jobs depend on exports—more than in any other Nation.

Moreover, our economic rivals—both the traditional ones such as Japan and Europe, and new ones like the Newly Industrialized Developing Countries, the NICs as they are called, have embarked on a deliberate strategy of international competition. So it is high time that we two forge a conscious competitive strategy. This means we should be prepared to devise wholly new policies. Marginal changes will probably not be enough and we simply cannot afford to rely solely on traditional policy responses.

With this in mind, he critical issue for this Committee is to determine what the proper role of Government is in formulating an American competitive strategy. And once we come to terms with the public sector's appropriate role, we need to determine how Government should be organized to best carry out its mission.

Let me add that this Committee has particular responsibilities. We oversee all of the organizational and efficiency aspects of Government. If we are to make any changes in organizing as to how we take this on, whether it is in education, science and technology—in any of these areas that effect competitiveness—it comes under our mandate.

I want to give particular credit today, too, to Senator Bingaman. We have designated him as the Ad Hoc Chairman for National Competitive Strategy. On this Committee we have portions of the competitiveness situation that would normally go to a number of different Subcommittees of this Committee. And there is such an interrelated nature to all of this that we felt it best not to try and farm it out but to have a Chairman who had broad experience in this area and who has looked into it extensively.

Senator Bingaman has a personal interest in it. He headed up the Democratic study group in this particular area and is personally interested in it tremendously—I know that from all of our conversations together on this—and we will be having him chair these hearings. He will be our Ad Hoc Chairman and the leader for the Committee, although all of our Committee members have indicated a tremendous interest in this area.

So I am very happy to be here today to kick this off and to turn the gavel over to Jeff to conduct the meeting, and I will be attending each of these meetings as much as I possibly can. He brings a particular expertise to this and we are glad to have him as our Ad Hoc Chairman for National Competitive Strategy.

I am very pleased that Treasury Secretary Baker is our leadoff witness for these hearings and that Commerce Secretary Baldrige will appear later in today's session. I am looking forward to their testimony with great interest. Let me also say we are on a rather tight schedule today with Secretary Baker. We promised to let him go by 3 o'clock so he can meet another commitment and that is the reason I am reading so fast here today and trying to get through this very rapidly.

Senator Roth, do you have any comments you wanted to make?

OPENING STATEMENT OF SENATOR ROTH

Senator ROTH. Thank you, Mr. Chairman. I, too, want to welcome the Secretary. As I said recently in the Finance Committee hearings, I applaud the leadership he is supplying in the important area of international competition. I would like to make a couple of observations because the word "competitiveness" means many things to different people. For some it is a false symbol for protectionism. When they talk about competitiveness, they really are moving in that direction.

Secondly, there are others who, when they talk about competitiveness, think that the Government itself can solve these problems. They are talking about industrial policy, and I question the wisdom of that.

To me, the important part of competitiveness, as far as the Federal Government is concerned, is to create an environment of growth. I think it is important to learn what we can do in securing that kind of environment. But we must understand that basically it is a problem for the private sector to produce a quality product that can be sold in the emerging world market.

Mr. Chairman, I am trying to be brief, too, because I know of the time pressure. But I would like to just talk for a minute about Government reorganization. It will come as no surprise to many in this room that I strongly support the creation of a Department of Trade and Industry as an essential part of our competitiveness strategy. We must have good policy, and over the years we have been blessed with good people. But without a strong organization to back them up, the people and the policy will never realize their full potential.

Twenty years ago when trade volume was relatively small and our domestic markets secure, we could afford to take a scatter-shot approach to trade. We no longer have this luxury. The world has changed with new competitors, new rules, new inroads.

Our world has changed and we have not. If we truly want to restake our claim in the international marketplace we must get with it, get organized and present a trade presence to the world that will command respect at the same time that it services our domestic trade interests.

A carefully crafted comprehensive trade reorganization will strengthen our performance in the upcoming negotiations, not weaken it. It will provide us with a trade infrastructure that will be a source of strength and reliability in the years to come.

It will force trade up among the national policy priorities as it will give trade a muscular presence in relation to our other policy interests. And it will encourage the development of a career service in the field of international trade, helping us not only to obtain qualified professionals, but to retain them in public service.

Four years ago I said that our trade program was a two-headed monster, and even though we are getting some strong leadership from the Secretary of the Treasury, I fear we have an animal today of 3 or 4 or 5 heads. I think it is critically important that we move ahead with trade reorganization so that the next Administration will be able to assign people on the basis of the reorganization and we can move ahead in making trade a number 1 national goal.

Mr. Chairman, I would ask that my entire statement be made a part of the record. Thank you.

Chairman GLENN. Without objection.

[The statement of Senator Roth follows:]

PREPARED STATEMENT OF SENATOR ROTH

I want to begin today by welcoming our two witnesses, Secretary Baker and Secretary Baldrige to the Governmental Affairs Committee. They both are well versed on the issues we will discuss today and will consider in the coming weeks. I look forward to the guidance and advice that they can give the Committee as we work to fashion the competitiveness policy that will be approved by this Congress.

I especially want to compliment the Chairman for calling these hearings and for the way he has framed them, in terms of the proper role of government in trade and competitiveness policy. It's no secret that competitiveness has become the buzz word of the day in Washington. But it clearly means different things to different people. To some it is a code word for protectionism. For others it means industrial policy. Another group, within which I stand, views competitiveness as an opportunity to create an environment for growth in our nation.

To help create this environment we must look for ways that Government can get out of the way of business growth, research and development activity and the ability of the private sector to create jobs, as we seek ways to team up with private interests to realize these and other competitiveness goals. Clearly Government does have an important role to play in the fight to regain our competitive edge. By reducing the deficit, creating savings incentives and incentives for research and development we can encourage the environment for growth.

The Governmental Affairs Committee is well positioned to play a constructive role in this debate, particularly in the area of government reorganization. It will come as no surprise to many in this room that I strongly support the creation of a Department of Trade and Industry as an essential part of our competitiveness strategy. We must have good policy, and over the years we have been blessed with good people. But without a strong organization to back them up, the people and the policy will never—never—realize their full potential.

Twenty years ago when trade volume was relatively small and our domestic markets secure we could afford to take a scattershot approach to trade. We no longer have this luxury. The world has changed with new competitors, new rules and new inroads being made every day in our own domestic markets. The world has changed and we have not. If we truly want to restake our claim in the international marketplace, we must get with it, get organized and present a trade presence to the world that will command respect at the same time that it services our domestic trade interests. The complete consolidation of our principal trade agencies is the answer, not tinkering around the margins with mere cosmetic change.

A carefully crafted, full-bore trade reorganization will strengthen our performance in the upcoming Uruguay round, not weaken it, and will provide us with a trade infrastructure that will be a source of strength and reliability in the years to come. It will force trade up among the national policy priorities as it will give trade a muscular presence in relation to other policy interests. And it will encourage the development of a career service in the field of international trade, helping us not only to obtain qualified professionals but to retain them in the public service as well.

I must say in all candor that I am very disappointed the Administration has not lent greater support to the creation of a central strong organization for trade. Mac Baldrige fought a long and lonesome fight in the Administration for the proposal in the first term. But in the end the narrow policy interests that fragment our trade effort to this day, did in Administration support for the department. I hope this position downtown will change. I plan to work with Administration officials in the coming weeks to reach agreement on a trade reorganization that we all can support.

Four years ago in hearings before this Committee, I said that our trade program was led by a two-headed monster. Today, I am sad to say, the animal has three, or four or five heads. As trade has become increasingly important, seemingly everyone wants to get into the act. As a result, our trade presence is fragmented and diffused. Our trade interests have no central authority to turn to for straight, dependable, consistent information on trade policy, and our trade competitors are free to "shop the system" for the best deal for their particular interests.

Is this any way to run a trade program? You can bet it isn't. In the trade war in which we are engaged—and war is not too strong a term—we are losing ground because of our divided "who's in charge here?" approach. We must organize for the 1990's and beyond if we are to continue to be recognized as a power of the first rank in international trade. And by organize I do not mean tinkering around the margins with cosmetic change. I mean a thorough consolidation of our principal trade authorities in a new cabinet-level department.

Halfway measures will do us no good now. Half a loaf or continued inaction on organization will leave us in a weakened position for the Uruguay round, for the ongoing bilaterals, for the important negotiations with Canada, for the MOSS talks; for the whole shooting match. A Department of International Trade and Industry is needed, it is needed now and we should be working to create it.

Mr. Chairman, I look forward to examining all of the initiatives now before the Committee. Again, I am pleased that the Committee is out front on these issues, I commend you for your initiative in this area and I look forward to working with you on our shared interests in the coming weeks and months.

Chairman GLENN. The opening statements of Senators Mitchell and Heinz will also be made a part of the record at this time.

[The opening statements of Senator Mitchell and Heinz follow:]

OPENING STATEMENT OF SENATOR MITCHELL

The United States today faces a challenge to its international position and its standard of living. The future of America is on the line.

Last year marked the fifth year in a row in which the United States trade deficit reached record levels. In November 1986 alone, the nation ran a trade deficit that exceeded the entire yearly deficit a decade before.

Last year, the total value of United States exports, even in nominal dollars, was less than the value exported in 1980. It was the fourth year in a row that the value of the nation's exports was less than it was at the beginning of the decade.

Undoubtedly, many reasons exist for our current trade decline. It took several years to get into the hole where we are today. It will take time now to get us out. But we must begin to do so today.

First and foremost, we must change the disastrous economic policies which have permitted enormous budget deficit at the cost of a lower standard of living for tomorrow.

We also must improve the competitive environment for American industry; and strengthen our human, educational, scientific and technological resources at home. And we must face the fundamental fact that the United States today exists as the largest market for almost every nation of the world, while many of those same nations throw up barriers to American exports.

All the free trade rhetoric in the world cannot alter that international reality.

Every trading nation in the world has a trade policy designed to protect its own economy and competitiveness, and to exploit whatever opportunities other countries have to offer.

The European Common Market nations do it. The Japanese do it. Latin American nations do it. And the United States does it too—except that we do it piecemeal, ineffectively and sporadically. We have no sustained, comprehensive trade policy.

Digging the United States out of the hole of the current trade deficit will require a partnership between American industry, labor and government. Most of all, it will require leadership.

Over the past six years, the Administration has not provided that leadership. Nor has it fostered cooperation. Its ad hoc actions too often have been in tune with election-year political needs, rather than closely attuned to the needs of American industries, workers, and regions.

As a member of the Senate Governmental Affairs Committee, as well as the Finance Committee, I look forward to Congress providing leadership in the form of comprehensive trade legislation.

I welcome the Administration's participation in the preparation and enactment of the legislation—and its implementation and enforcement.

Most of all, I look forward to us moving together to restore America's future.

OPENING STATEMENT OF SENATOR HEINZ

Mr. Chairman, I want to thank you for calling this hearing on competitiveness and U.S. policy. Secretary Baker and Secretary Baldrige are fully aware of the difficulties we face in opening new markets, and I am looking forward to their testimony.

American industry is handicapped. Our competitors enjoy advantages in all areas which bear on world trade—from basic education to capital availability, technology dissemination, interest rates and regulatory practices. The disincentives to maintaining a U.S. manufacturing base far outweight any incentives. This is not just a question of policy, it is a question of whether we want to continue on a road toward economic suicide.

The Administration's competitiveness package and the Senate's draft trade bill both contain position steps. Yet I remain skeptical of efforts to reorient trade management or create a new federal agency to manage trade matters. The U.S. Trade Representative is already overburdened with administrative work, and the creation of a Department of Trade may or may not add to the workload. At the same time, we have a statutory Trade Policy Committee, which the USTR heads. This is an existing policy-making body which could perform many more duties.

In terms of assisting our industries to compete, I am looking forward to reviewing proposals before this Committee to provide greater information and assistance to American industry. One of the sad facts facing American businesses is that the Japanese government has far more sophisticated information about U.S. market conditions than any Federal agency. Thus, a coordinated data system, either the Administration's Export Promotion Data System or the proposal Senator Bingaman has had included in the trade bill, is big step forward. Moreover, we need analysis of national policy alternatives. Half of all actions taken by business are in direct response to the decisions of government, but our policies do not consider their impact on our competitive position. To sum up, Mr. Chairman, we are being whipped by nations which have competitive strategies, where government and private institutions give a high priority to international trade. This is the road we need to take.

Chairman **Glenn**. Senator Bingaman?

OPENING STATEMENT OF SENATOR BINGAMAN

Senator **Bingaman**. Mr. Chairman, I have a very short statement but I will just put it in the record in order that we can get on with the testimony.

[The statement of Senator Bingaman follows:]

Prepared Statement of Senator Bingaman

Thank you Mr. Chairman. I would like to commend you for bringing this important issue before the Committee.

America is faced with a competitive challenge. Our record trade deficits are but a manifestation of a deeper problem. In product after product, American industry has been losing its competitive edge. At first, our competitive decline affected labor intensive industries, such as textiles and apparel. Next, it spread to the heart of our industrial strength, especially steel, mining and automobiles. Most recently, it has begun to hit our advanced technology industries, such as semiconductors and computers.

While protectionism is not the answer for dealing with our declining competitiveness, it is clear that the government has a role to play in improving our ability to compete. I look forward to discussing the proper role of the government in the process of our competitive renewal during this hearing, as well as hearing Administration comments on the various trade and competitiveness proposals now before the Committee.

In its final report, the President's Commission on Industrial Competitiveness (the Young Commission) stated, "Americans must take on the challenges of competitiveness as *the* economic agenda for the next decade." Now, over two years later, the President has finally recognized the truth of those words. I applaud the President's new-found attention to competitiveness, and in particular I applaud our witnesses' efforts in this area, especially Secretary Baker's efforts in the area of exchange rates and the LDC debt problem, and Secretary Baldridge's continuing attention to the problem. However, since the Young Commission issued its report our competitive position has grown worse, not better. As Senator Sarbanes in his introduction of the Annual Report of the Joint Economic Committee for 1987 stated, "we are skating on thin ice."

We must redouble our efforts to improve the competitiveness of America. One set of initiatives, such as the President's competitiveness package, is not enough, however useful they may each individually be. We did not get ourselves into this situation overnight—a situation best characterized as a death by a thousand cuts. Nor will we get ourselves out with one piece of legislation, be it either a trade bill or a competitiveness package. It will be a long and difficult trek for America to regain its competitive vigor.

I am especially pleased that the Governmental Affairs Committee is, with this hearing, renewing its efforts to improve America's competitiveness. I would like to emphasize that this is but the beginning of the Government Affairs Committee's work on the issue. Competitiveness as an issue will not and should not fade away after we pass a trade bill. Although this first set of hearings will concentrate on the trade aspects of competitiveness, the Committee will also properly consider other aspects, such as labor market mobility and the role of science and technology.

I look forward to working with Senator Glenn and all of the Committee members throughout the 100th Congress on the various aspects of our competitiveness challenge.

I do think that Secretary Baker is the ideal first witness on this subject. He has done a great deal in the area of dealing with our exchange rate problems and the LDC debt problem, and has been an advocate for more attention to these issues here in this country. I am glad he is our first witness.

Chairman **Glenn**. Thank you. Senator Cohen?

OPENING STATEMENT OF SENATOR COHEN

Senator COHEN. Mr. Chairman, I have a very long and powerful statement to make here today, but in view of the time restraints I will not do that. I would simply say that I approach these hearings with a good deal of skepticism. Last year we had words like "fair trade," "level playing fields," "reciprocity." Those were the economic buzz words last year.

This year, it happens to be the word "competitiveness." I would dare say that the reason that we are here is the failure on the part of the Administration to enforce existing laws. It has been haphazard, at best, in terms of enforcing existing trade laws, blatantly disregarded in other cases, and generally, I think, the Administration has taken a rather reactive approach to international trade policy.

I have watched industries like the shoe industry, potatoes, textiles, forest products, and the fishing industry play by the rules, file all of the complaints, present all of the evidence, and then get shot down by the Administration, which has been rather indifferent to their plight.

I will give you one quick, basic example. The shoe industry back in 1979 knew it would have to undertake a massive educational and technological revolution, as such, if it was going to remain competitive in the coming years. It also needed some temporary relief.

At that time there was only about 70 percent—at the time they filed their action to get Section 201 relief—there was about 70 percent import penetration. They were asking for temporary relief in order to survive long enough to make the changes, and after a unanimous finding by the ITC that there was injury, the Administration rejected any attempt for relief.

In the wake of that, I think Senator Danforth pointed out that if this industry, with now an 82 percent market penetration, is rejected by the Administration under Section 201, no industry is entitled to relief. So I think that was a case example where an industry tried to do something, took the measures necessary, and yet, had no willing partner at the other end of Pennsylvania Avenue to help out.

In spite of that, they continue to survive, on a much lower level, of course. I want to give you one example of where we have not been aggressive enough. The Allen-Edmonds Company wanted to appear at the Japanese Footwear Trade Show and were refused by the Japanese. Only after they threatened to crash the party were they allowed to partake, because the Japanese Government said they were not invited and therefore could not appear.

It has been, I think, the absence of an aggressive, active advocate on the part of not only this Administration, but past Administrations to really go out and allow us to compete on an equal and fair-footed basis.

So I hope that we can have that partnership that we are all striving for. Frankly, I am skeptical that there will be any change from what we had last year and the year before, but I will keep an open mind as best I can, Mr. Chairman.

[The statement of Senator Cohen follows:]

Prepared Statement of Senator Cohen

Last year "fair trade", "level playing field" and "reciprocity" were the economic buzzwords circulating on Capitol Hill. This year a new term has been added to the ranks—"competitiveness" as in "if U.S. industry can become more competitive, we can recapture all lost foreign markets, eliminate our huge trade deficit, and enter into a new world of economic prosperity." Frankly, I enter these hearings today with great skepticism, for I believe that it is difficult to promote "competitiveness" when the Federal Government has, at best, haphazardly enforced existing trade laws, blatantly disregarded others, and generally taken a reactive approach to international trade policy.

In my State of Maine, I have listened to pleas from the potato industry, the paper and forest products sector, the footwear and textile complex and the fishing industry for temporary relief from an onslaught of imports until the necessarily painful adjustments could be made. Time and time again, I have seen these industries follow all the rules, file their cases, and literally get shot down by this administration and the one which preceded it. As our colleague, Jack Danforth, the former chairman of the Trade Subcommittee, so succinctly stated after the footwear industry's 201 case was turned down, "The President's decision makes a mockery of U.S. trade law. The law is now a dead letter because the President has said that playing by the rules is for suckers. If the footwear industry cannot expect help from section 201, then no industry—I repeat, no industry can expect help from section 201." With this track record, is it any wonder why I retain a healthy dose of skepticism?

At the outset of the committee's hearings to explore how the Federal Government and the private sector should work together to make American industry more competitive, I think it is instructive to look at a case study of an industry well on its way toward extinction, yet still attempting to embrace many of the tenets of industrial competitiveness. Because it has gotten virtually no assistance from the Federal Government, it is doubtful that these private sector competitiveness initiatives will ever work.

As early as 1979, the American footwear industry recognized that without temporary—and I emphasize temporary, global trade relief coupled with a massive educational and technological revolution, it would simply not exist by the end of the 1980's. Five years and hundreds of thousands of dollars later, American footwear manufacturers and suppliers presented one of the most comprehensive blueprints ever seen for restructuring an entire industry. Called the "five-year plan of action", this report details technological improvements and marketing plans deemed necessary for the American footwear industry to retain a piece of the international marketplace.

Despite this industry's commitment to excellence, a flood of cheap imports capturing in 1985, some 70 percent of the U.S. market, and a unanimous injury determination by the International Trade Commission, this administration failed to live up to its end of the partnership and denied the temporary relief the footwear industry genuinely deserved. As a result of that decision, today we see over 82 percent import penetration in an industry that is attempting on its own, to counteract the foreign targeting that has so decimated its ranks.

Unfortunately, this same story can be told of other Maine industries. The Maine potato industry has been buried under a flood of subsidized Canadian potatoes targeted for the traditional Eastern U.S. markets. Yet, when it pursued an antidumping complaint in which the Commerce Department found dumping margins in excess of 36 percent, the International Trade Commission could find no evidence of injury. Recently, the Maine fishing industry filed a countervailing duty petition alleging that subsidized Canadian imports were driving them out of business. Despite indications that the subsidies amounted to more than 25 percent of the value of the product, the Commerce Department would only implement a 6 percent additional duty. Finally, many of my committee colleagues are familiar with the outcome of the softwood lumber case recently concluded through negotiations. To the chagrin of Maine lumber producers, most of their competitors from eastern Canada were exempted from any punitive action.

Finally, I would like to comment on what I hope is a major theme of these hearings—the imporatance of the Federal-private partnership that can make American industry more successful and competitive in the international arena. As I have mentioned, the American footwear industry is struggling to implement a five year action plan without major assistance from the Federal Government. Recently, the Harley-Davidson Motorcycle Company announced that it was giving back the last year of protection awarded it by the Federal Government under section 201 because it had adjusted to the new competitive environment and was ready to go head to head with the best in the world. Imagine where these Maine industries would be today if they had half the degree of assistance from the Federal Government.

In closing, I look forward to building upon the sometimes tenuous partnershp that exists between the Federal Government and the private sector. I sincerely hope that the quality of this partnership improves over that experienced by the Maine footwear, potato, fishing and lumber industries or I have grave concerns for the future of American industry. I believe that the country has much to gain from such cooperation—and much more to lose if the talents and resources of both partners are not used to their greatest advantage.

Chairman GLENN. Thank you. Senator Levin?

OPENING STATEMENT OF SENATOR LEVIN

Senator LEVIN. Mr. Chairman, first let me congratulate you and Senator Bingaman on the leadership that you are exercising in getting us together for a series of important hearings.

Senator Cohen has just pointed out that even where we are competitive we too often run into trade barriers, discriminatory practices which are a significant part of the $170 billion trade deficit which has cost so many millions of American jobs. We are exporting our jobs at this time in our history. We are exporting American assets.

One of the reasons for this job loss is the failure to use existing authority to retaliate against countries which discriminate against our goods. That is one part of the problem, the failure to exercise that authority. The President does have it, but we have seen these growing trade deficits because, in part, he has failed to use it.

Another part of this picture lies in areas where we are not competitive. If we are going to be competitive, one of the things we have got to do is to try to reduce the antagonisms that remain between labor and business and Government in this country.

We have to create a forum where they can come together voluntarily—and I emphasize the word voluntarily—in order to work out a common approach to the problems of troubled industry. We have no such forum today. I emphasize the voluntary nature of this approach, because some of the opponents of it have attempted to make it something other than what it is.

I am pleased to cosponsor Senator Bingaman's bill, S. 374, which would create a Council on Industrial Competitiveness. Senator Eagleton and I offered two versions of a Competitiveness Council in 1983 when we were marking up Senator Roth's Department of Trade and Industry legislation. Senator Roth has introduced legislation for such a department again this year.

I will also be introducing legislation for such a department this year, including a Council of Competitiveness to provide a place where labor, industry, and Government are encouraged to come together and work out cooperative arrangements voluntarily in order to become more competitive in this world.

I would hope that one of the issues that our first witness, Secretary Baker, addresses would be the position of the Administration on these voluntary councils, these forums where we could bring together the component parts of our economy to work together voluntary.

I would ask that my entire statement be made part of the record, Mr. Chairman, and I want to join at this time in welcoming Secretary Baker to these hearings.

Chairman GLENN. Your entire statement will be included in the record.

[The statement of Senator Levin follows:]

PREPARED STATEMENT OF SENATOR LEVIN

Mr. CHAIRMAN: I want to commend Chairman Glenn and Senator Bingaman for their leadership in setting up these five days of hearings on economic competitiveness. This is an important issue—and we must not allow that importance to be obscured by the fact that the term "competitiveness" has come to mean so many different things.

Promoting national competitiveness requires more than frequent repetition of the phrase. The first thing is recognition of the dimensions of the problem we face today. To a large extent, that has already been accomplished. Americans know that too many of their childrens' test scores are dropping, that too many of our kids still cannot read. And even if they can read English, all too few can read a foreign language.

Not every American knows that our trade deficit hit a record $170 billion in 1986. But they certainly know that they—or their neighbors—own foreign-made cars, foreign-made televisions, and foreign-made VCR's. They also know that their jobs—or the jobs of their children—are threatened by America's declining ability to sell our goods at home and on the world market.

One step in promoting competitiveness is to cut through some of the institutional barriers that block our competitiveness efforts. Antagonisms remain between business, labor, and government which block the cooperation that is essential if we are going to compete, and compete successfully. Obviously, we are not going to eliminate all of the differences between the three sectors. But I believe that national competitiveness will be advanced when representatives of government, business, and labor have a forum in which they can come together voluntarily to work out a common approach to the problems of troubled industries. Today no such forum exists. I emphasize the voluntary nature of this approach since critics have sometimes labeled it otherwise.

That is why I am pleased to join Senator Bingaman and other colleagues in supporting a council on industrial competitiveness like the one proposed in Senator Bingaman's bill, S. 374. Senator Eagleton and I offered two versions of a competitiveness council in 1983 when we were marking up Senator Roth's Department of Trade legislation. The second version passed in an 8-2 vote by this committee. A competitiveness council would review legislative and executive policies affecting industrial competitiveness; it would establish industry subcouncils to develop long-tem strategies for individual industries; it would make an annual report to the President and Congress on ways to increase U.S. competitiveness. I emphasize that it would not exercise executive authority. Its recommendations would be advisory and nonbinding. It would bring coherence to the competitiveness battle. It would bring voluntary cooperation—cooperation that is desperately needed if we are serious about developing a competitiveness strategy.

I also intend to introduce legislation establishing a Department of International Trade and Industry, a cabinet-level department which could serve as the central address for our competitiveness strategy. I am pleased that Senator Roth who has been a leader in this effort for years has introduced another version of Department of Trade legislation and look forward to a bipartisan effort to move legislation in this area in 1987.

Mr. Chairman, neither labor, nor business, nor government can implement a competitiveness strategy alone. Nor can we do it as adversaries. The time for that is long past. The time for cooperation is now.

I thank the chairman.

Chairman GLENN. Senator Chiles.

Senator CHILES. Mr. Chairman, I want to welcome Secretary Baker and Secretary Baldrige to these hearings and I am delighted that you called them. Senator Bingaman and I think these are two witnesses that are certainly major players in trying to come forward with a trade policy for the country. I look forward to their testimony.

Chairman GLENN. Thank you very much.

With the limited time we have with Secretary Baker this afternoon, without objection, we will go to a 5-minute rule so that everyone has a chance to at least get one little session here before our three o'clock deadline.

Mr. Secretary, welcome to the Committee and we look forward to your testimony, either a summarized version or in its entirety as you see fit.

TESTIMONY OF HON. JAMES A. BAKER III, SECRETARY OF THE TREASURY

Secretary **Baker**. Thank you very much, Mr. Chairman. I have a summary version of my written statement. I would ask that the written statement be inserted in the record, and if it is all right with you, since it is 2:20 p.m., I think we can perhaps be more productive spending the time on Q & A and I will ask that the record reflect the summary statement as well.[1] That will save us a little time.

I noted in your statement, Mr. Chairman, that this problem of ours is really not a problem that is going to be solved by legislating—I think you may have said simply legislating—in the trade area, and I quite agree with that and the President agrees with that. Senator Levin, I think, said somewhat the same thing. It is a much broader problem, it is much more comprehensive, and we have got to deal with it on a comprehensive basis.

My summary statement would have reviewed for you the President's competitiveness package which was sent up here on the 19th of February. It attacks the problem across the board. It has 6 major parts. I will not even summarize it because I have done so in other testimony before other panels, and you are undoubtedly well aware of it, but it seems to me that that is the kind of approach that we have got to take a look at.

Now, you have got some other suggestions pending before this and other Committees, and these suggestions are likewise worthy of close examination and close consideration. Senator Cohen and Senator Levin both said that the problem—or at least they implied, I think, from what I heard—that the problem is not so much one of new laws and new legislation as it is of being willing to aggressively enforce the legislation that we now have on the books.

And Mr. Chairman, I would like to suggest as a part of this ad hoc opening statement of mine, if I might, that you might fault us for what went on for some period of time, but over the course of the past two years I think we have been as aggressive in enforcing the unfair trade laws of the United States as any administration, perhaps, in history.

We have also tried to move, as you mentioned, in the area of international economic policy—macroeconomic policy—because that has a major effect on what our trade deficit will or will not be.

And if it is all right with you, I would like to briefly run down a list of about 15 or 16 items that may not be fresh on the minds of either members of this panel or the public, actions that have been taken. I will not dwell on them long, but the point I want to make here is that since we decided to deal with this problem, we have dealt with it and dealt with it effectively.

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[1] See p. 221 for the summary statement and p. 233 for the prepared statement.

I have to acknowledge that Senator Cohen is right when he says that relief was denied for the shoe industry. But Senator, let me say that this Administration has granted more 201 relief—import relief—than any administration in 30 years. The President has acted affirmatively to restrain imports in 4 of the 6 cases which have been sent to him by the ITC.

In addition to that, the panel is aware of what we have done with respect to the problem of exchange rates through the mechanism of the Group of Five countries beginning with our meeting at the Plaza Hotel in September of 1985, some 18 months ago, working through the G-7 coordinated interest rate reductions, the Tokyo Summit agreement, and the Paris accord of late February of this year.

You are aware of the progress that has been made in our yen/dollar talks with the Japanese, the negotiation with Israel of a free trade agreement, and we are now making what some think is reasonably good progress toward the same end with our largest trading partner to the north, Canada.

We were successful in negotiations in Punta del Este. The Trade Representative did a superb job in negotiating down there a new trade round to include the subjects, Mr. Chairman, that the United States felt were so important and had never been included before—services, intellectual property, agriculture, and investment—and we got every one of those included.

The machine tool industry has received import relief. We have an automobile VRA, as you know, which is continuing in force. We have renegotiated textile and apparel agreements, bilateral and multilateral arrangements. We have just recently concluded a satisfactory resolution with the EC countries and Japan of the thorny problem of tied aid on export credits. This was in large part due to the fact that the Congress saw fit to fund our "war chest" to the tune of $100 million last year.

We have got an additional request in for $200 million and we need to have that $200 million, if I may say so, so that we can continue to make sure that this agreement we have just negotiated is implemented and it works.

Senator CHILES. Would you take a little more?

Secretary BAKER. What?

Senator CHILES. Would you take a little more?

Secretary BAKER. We would take a little more, Senator Chiles, for the purpose for which we have asked for it, and that is to use it as a negotiating tool in order to end the predatory practice of tied aid. We would not want to see it simply as a new entitlement program, if you will, for export subsidies.

Senator CHILES. I agree, but I do not think you have quite enough to play at the table that you need to play with $200 million.

Secretary BAKER. Well, let me say this, give us the 200 first, and if we get that we will entertain your motion to give us some more. But we could use that additional 200, and we really do believe the only reason we got agreement was because we had that first 100 and because we used it.

With respect to Section 301 cases, I know I have said this before to other panels, and it comes as no surprise to this panel, but this is the first President in the history of our republic to ever self-initiate unfair trading cases against our trading partners. It has never before been done.

The President has done it. He has done it in 6 or 7 cases, and he has done it successfully.

We have been, I think, reasonably aggressive in anti-dumping and countervailing investigations, with respect, particularly, to issues such as semiconductors, and we have an ongoing problem right there with that issue that we are dealing with and plan to deal with.

We have created a strike force to investigate other unfair practices, and that strike force has been operating and is continuing to operate, and they bring to our Economic Policy Council from time to time isseus on which we should give consideration to action.

We have proposed and are working to implement a proposal to solve the problems of Third World debt. And this is a very difficult problem. It is a problem that did not arrive here overnight. It took 10 or 15 years to get here and we are not going to solve it overnight. But we need to deal with it, and we have a proposal out there and it is making progress. It is not going to solve the problem overnight.

In our competitiveness package we are asking for legislation respecting product liability laws in the United States that put us at a great disadvantage. We have not been able to get that from the Congress. We are asking for legislation in the area of antitrust liability to bring the antitrust laws up to date so that we are not at a disadvantage in competing because of our antitrust laws.

Let's take a look at the Foreign Corrupt Practices Act. We are not endorsing bribery, but there are some provisions in there that make it very, very difficult for American businesses to operate abroad, and if we are going to talk about being competitive, let's make sure that the burdens there—or the standards of proof—are reasonable.

We are negotiating—and you can talk further, I know, to Secretary Baldrige about this when he is here—for changes and relaxation in our export control laws. We are moving in all of these areas, and we are moving aggressively in these areas. And I have to agree, if I heard correctly, that the problem is not so much one of a lack of adequate laws on the books. The issue is one of making sure that we continue to aggressively enforce those laws, and I would submit to you, Mr. Chairman, that over the course of the last 18 months to 2 years we have been doing just that.

Thank you, sir.

Chairman **Glenn**. Thank you, Mr. Secretary. Your entire statement, as well as your summary statement will be included in the record.

Let me start off the questioning here. We are into a different era in international trade. We are no longer a closed economy—to use words out of your testimony—and I think it is truly striking how internationalized our economy and most of the world economies have become just in the last decade or so.

But have our competitiveness and trade policy making institutions sufficiently changed with the times? I know that you say you feel that the Federal Government is suitably organized to carry out the President's competitive initiatives, but that sort of begs the question of whether the current structure and organization of the Government is appropriate, quite outside what the President's programs are.

Are there any structural changes in how we are organized that you would like to see made?

Secretary **Baker**. Well, I do not have any to suggest, Mr. Chairman. We have, as you know, submitted, as I just mentioned, a comprehensive set of proposals to enhance the competitiveness of our economy and to enhance our international competitiveness. These things will improve the incentives to performance a heck of a lot more than any reorganization of the bureaucracy that I can think of. After all, it really is better economic performance that we are after and not better bureaucracy, or perhaps bigger bureaucracy.

Chairman **Glenn**. In your testimony you note, and I quote: "Many forecasters believe our current account deficit will decline this year to about $130 billion."

Is that the Administration's goal?

Secretary **Baker**. Well, that is what we think is going to happen, Mr. Chairman, and that, at the least, would be our goal. We think that is a reasonable assumption to make under the circumstances when you consider the changes that have taken place vis-a-vis the dollar and its relationship to the main non-dollar currencies.

Chairman **Glenn**. What do you normally see as a lag period after an exchange rate change before it really starts affecting trade? In other words, how long is it going to take us—now that the strength of the dollar has declined somewhat, which we are all grateful for—how long does it take before we really see that coming up in whatever trade we are able to recoup after that?

Secretary **Baker**. We think, Mr. Chairman, that we are seeing that now in the sense that we are seeing the trade deficit level off. We have not seen it turn down, but we have seen it level off. And we think that one of the major factors in that leveling off are the exchange rate changes.

But to specifically answer your question, the economists tell us it takes anywhere from 12 to 18 months to see these changes in exchange rates reflected in trade figures. The Plaza Hotel meeting was only 18 months ago, and much of the decline in the dollar has occurred, of course, since that time. It did not take place immediately.

Chairman **Glenn**. With MITI playing a role as it does in Japan with other nations, with our major trading partners having departments of trade and so on, do you favor a Department of Trade?

Secretary **Baker**. Well, the Administration has not taken a position, Mr. Chairman, on Senator Roth's legislation. Senator Roth and I had extensive discussion about this back 2 or 3 years ago when I was working in the White House. We looked at this proposal several years back and it was not clear to us that there were real advantages to offset the additional costs that might be involved.

It is true, also, that there are some concerns among industries that are not industrial in nature—that is, agriculture and services industries like banking—that perhaps they might get less emphasis than an industrial sector would if you had a Department of Trade.

Chairman **Glenn**. Does the Administration plan to take a position on the proposal for a Department of Trade?

Secretary **Baker**. I am sure that we will in due course.

Chairman **Glenn**. In what time is left to me, also, the Young Commission recommended that we create a Cabinet-level Department of Science and Technology. That is someting I have had a particular interest in, also.

I think this country became what it is largely because of our emphasis on education and because also we were willing to do the basic breakthrough, seminal-type research that created whole new businesses, jobs, industry, employment, and so on, and the rest of the world followed in our wake.

We did not become the nation we are because of resources, and now we see ourselves beginning to be out-competed in some areas of research by some of our trading partners, to our detriment.

Do you favor or not favor establishment of a Department of Science and Technology under which we could put quite a host—NSF, National Academy of Sciences, perhaps some of the other entities also—do you favor that?

Secretary **Baker**. Mr. Chairman, we favor more emphasis on science and technology and a part of the President's competitiveness package is to double—I think it is double—the budget of the National Science Foundation. It is to call for early review of the R&D tax credit, which expires in 1988, and to consider how long we might extend that, whether we should make it perpetual, whether or not we ought to increase it from 20 percent to 25 percent.

His proposal includes a recommendation to deal with the 861 allocation of R&D by our corporations that operate domestically as well as abroad. We do not favor the creation of a brand new Cabinet department. We would, frankly, favor fewer Cabinet departments.

Our view is that Government is too big. It is too big now and we have to some extent too much overlapping of function. The President has a personal science adviser as a member of the Executive Office of the President who is at the President's right hand. He is in there in the Executive Office, has an office there, and is available to advise and does advise the President on science and technology matters.

So bureaucracy, once created—as we all know—tends to have a way of growing and growing and growing and reducing it is very difficult. We would not favor expanding it.

Chairman **Glenn**. Do you think we need tougher controls on direct foreign investment in this country?

Secretary **Baker**. Do we need what?

Chairman **Glenn**. Tougher controls on direct foreign investment in this country.

Secretary **Baker**. Mr. Chairman, the United States has been in the forefront of trying to move the world toward an open investment regime and the United States has prospered because we have an open investment regime in this country. And I think it is much better for us to set a standard and set an example and try and move other countries to that position.

Quite obviously we should have due regard for investments that might have some detrimental effect with respect to the national security. But aside from that, as a matter of trade or as a matter of tit for tat, my answer to you would be no.

I do think it is important that we be flexible enough to suggest the possibility of retaliation, and that we have that ability and that we are conscious of it and that we let the other people know that if they are not going to treat us fairly we are not going to continue to simply give them free rein here.

And we have done that, Mr. Chairman. We have done it in the area of financial services, and we have done it recently. But in terms of legislating preconditions to investment in the United States, I would not favor that and I think it would be detrimental to the overall economic interest of the United States if we did.

We need capital. There is a lot of foreign investment in this country that creates jobs and creates a lot of economic activity.

Chairman GLENN. Thank you, Mr. Secretary. My time is up, and I would also like to turn the gavel over to our Ad Hoc Chairman for National Competitive Strategy, Senator Bingaman.

Senator Roth?

Senator ROTH. Secretary Baker, Japan in many ways has become the symbol of what is wrong with our trade policy, and despite the fact that substantial progress, for example, has been made in the exchange rates, at least short term the imbalance continues to grow. We continue to have sector-by-sector negotiations, in some people's opinions, with not much progress being made.

Now, a lot of people are concerned that this is souring the relationship between these two most important economic countries. And I wonder whether or not you think it would be desirable to have instead of sector-by-sector analysis, maybe a top level bilateral negotiation to try to resolve these problems across the board, or at least a plan of action for the future? A number of people have suggested that, including people like Bob Strauss and others, and I wonder what your comments are?

Secretary BAKER. Well, Senator Roth, I think we have such discussions and negotiations all the time. We are in communication at the highest levels of our Government with the Japanese Government with respect to this problem, because it is a major problem not just for us but for them as well. We have got to resolve these external imbalances.

This is what led us to the Plaza agreement way back in September of 1985. We continue to work on that problem. We last worked on it in Paris one month ago, where we reached agreement with Japan and other nations for some macroeconomic policy measures that would move us in the right direction.

Those things can be far more effective, if we can get them done, than any moving around of pieces on the chess board in terms of coordination of trade policy within the Executive branch or creating new departments or legislating some additions in our trade law.

Senator ROTH. That is not what I am speaking of here.

Secretary **Baker**. I am sorry then, I do not understand what you are speaking of.

Senator **Roth**. What I am speaking of here is what Bob Strauss was talking about before the Finance Committee, that there be a special bilateral negotiation. I am trying to address the problems between Japan and ourselves right across the board.

Secretary **Baker**. We have the MOSS discussions. We have the discussions that we carry out on the macroeconomic policy level. We have summit discussions between the President and the Prime Minister of Japan at least once a year, and normally you have visits and a frequent opportunity there for there to be discussions, and negotiations even, at the very top levels of Government.

Let me throw in one other thing, because we have this ongoing as well. Periodically we have a sub-cabinet group that meets and discusses and negotiates these problems with the Japanese. The resolution of the tied aid credit problem, which has been a very thorny problem, 15 years in resolving, was resolved because we finally got their attention.

Senator **Roth**. There is no question but what there are negotiations from time to time at every level. But I think what is being proposed here is that there be a specific process, negotiations, for the sole purpose of trying to work out a program that will bring some kind of better balance. And I think it is an interesting idea that is worthwhile exploring.

But let me just go to another matter because my time is running. You do agree that organization is of some importance?

Secretary **Baker**. Yes, sir.

Senator **Roth**. And you do agree that probably our most important problem domestically is becoming competitive in this emerging world economy?

You see, my concern is that we are not structured for it. It took several years, frankly, in this Administration to develop an approach on how to handle trade.

My concern is that when a new Administration comes in do I have several years of battle between the diverse groups that have an interest, whether it be the Treasury or the State Department? You have the problems between Commerce and USTR, with USTR responsible for negotiations but the Commerce responsible for research and developing facts. We all know that there have been tremendous feuds as to who is going to emerge as the strong man, or woman, as the case may be.

Would it not be better if we tried to develop some kind of approach where we consolidated trade matters into one unit? We are not talking about developing new bureaucracy, we are not talking about new agencies. We are talking about getting rid of some in the process.

But to me the problems of the 1990's are not the problems of the 1960's and 1970's, and it is about time, just like we had the Hoover Commission in the 1950's to shape Government for the next generation.

Secretary **Baker**. Senator, there may be some economies of scale that could be accomplished if you formed such a department, and you might be able to eliminate some duplication, but trade cross-cuts many, many other areas that you would not dream of eliminating.

Senator **Roth**. Absolutely.

Secretary **Baker**. National security agencies, foreign policy agencies, economic and fiscal agencies, monetary agencies, and all of these departments and agencies are bound in any administration to have some say in trade policy because it is so broad and it does crosscut their areas of responsibility.

And creating a new Department of Trade, it does not seem to me, would eliminate that. There is no way that the Congress can legislate effectively, I do not think, from whence the President will—or any particular President will—end up taking his advice.

If you have these agencies and they have a natural role to play in the formulation of policy—or at least their jurisdiction is such that trade policy cross cuts it—they are going to be advising the President.

You have strong Presidential trade advisers now. Trade policy in this Administration is set by the President. His principal advisers are two; the Special Trade Representative, and the Secretary of Commerce.

We now have, as I think you indicated, achieved a good coordinating mechanism in this Administration where at least we get everybody sitting around one table and we surface the issues to the President for decision, and we can get Presidential decisions in a reasonable amount of time, contrary to the situation that existed—I will admit to you—when we first came into office.

But to create a new Department of Trade will not mean that you will eliminate the State Department, or the National Security Council, or the Defense Department, or the Treasury Department, or a whole host of other departments that have a role to play.

Senator **Roth**. I will be honest with you, I do not consider that an argument of substance, because the same arguments can be made about security, the same arguments can be made about foreign policy. They impact on financial matters, they impact on the economy, they impact on the budget. But we still have a Secretary of Defense, even though it is interrelated. And I agree with you, how ever you cut the pie there are going to be crosscurrents and a need for coordination.

All I am talking about, Mr. Secretary, is that we need to consolidate the basic trade policies in one head and give him the background, the depth of staff, and the kind of position that will make trade a number one goal. And I think that we cannot afford for a new Administration to wait 7 years, or 4 or 5 years, to achieve that.

I agree with you that much good is being done now, but it takes too long. Thank you, Mr. Secretary.

Senator **Bingaman**. Mr. Secretary, let me ask a question along the same lines. You indicated that the President makes our trade policy. My concern is that it seems to me that, to the extent we have a trade policy, it is made very much after the fact. We wait until problems become so severe or exacerbated that it is very difficult to deal with them, and then sometimes we can only deal with them by labeling them national security problems.

Semiconductors is one example. I applaud the efforts that are going on now to try to come to grips with this, but are we not late in coming to grips with that problem? Is that not almost a horse that is out of the barn?

Secretary **Baker**. Well, that is a question you might better direct to the Secretary of Commerce. Speaking from my own personal point of view, I would say no. We dealt with it as soon as it was presented to the Economic Policy Council, and we dealt with it in terms of getting a Presidential decision to authorize the Secretary of Commerce to work out an agreement.

Now the question is, "Is the agreement being implemented?" But the minute the issue was presented, Senator, it was dealt with.

Senator **Bingaman**. Well, you are indicating that it was presented to the Economic Policy Council. Should not the Secretary of Defense sit on the Economic Policy Council?

Secretary **Baker**. The Secretary of Defense?

Senator **Bingaman**. Yes.

Secretary **Baker**. He does any time there is an issue that would impact his department, and the Deputy Secretary of Defense comes regularly. The Secretary of Defense comes frequently.

Senator **Bingaman**. Let me ask on another issue—which I think is one that is coming down the road at us—about superconductors. There have been some articles in the paper about recent breakthroughs, such as the University of Houston press conference announcing the latest breakthroughs in the science of superconductivity. This is a development with potentially enormous commercial applications. An article last Friday in the Wall Street Journal says:

> The Japanese Government is organizing. Four days after the Houston bombshell, Japan's Science and Technology Agency announced its intent to form a research consortium of Japanese companies, universities, and Government labs.

Then they go on and explain that the Japanese are trying to get out in front on this issue. Is this another semiconductor-type problem coming at us? Are we going to be faced with a proposal 4 or 5 years from now to make this a national security issue and appropriate funds for the Department of Defense to catch up in this area?

Secretary **Baker**. Senator, I really cannot answer that because I do not know enough about the issue of that particular industry. I really do not.

Senator **Bingaman**. To get back to Senator Roth's problem, who in the Administration would be the right person to take the initiative to deal with that problem?

Secretary **Baker**. Well, I think that your next witness would probably be. He is the one that brought the semiconductor problem before us and he is the one that would be most likely, in my view, to hear from the affected United States industry to the extent that it is concerned about what you raise.

Senator **Bingaman**. Do you basically disagree with the claim or the argument that the actions you went through—the 15 or 16 items you mentioned—to deal with our trade problems really constitutes sort of an ad hoc series of actions to deal with a problem? Do you really see a policy reflected in the way we dealt with shoes and the way we dealt with lumber and the way we deal with semiconductors? Is there a consistent policy?

Secretary BAKER. I do not think it is sector-specific, Senator, but I do believe that there is a policy, and speaking for myself with respect to my Department's jurisdiction, I can assure you there is a policy, and it is one that was formulated between the time that I became the Secretary of this Department in February and July or August. And we concluded that there were some things that we needed to do in the international economic policy area, and we have set about to try and do them.

Senator BINGAMAN. But those are macroeconomic actions?

Secretary BAKER. Yes, sir. But those things—if I may make the point I tried to make earlier—those things have as much if not more to say about whether the United States will be competitive than what the organization of the Executive Branch is with respect to trade matters, or than sector-specific trade legislation.

Senator BINGAMAN. My time is up. Senator Cohen?

Senator COHEN. Thank you. Mr. Secretary, you indicated how aggressive the Administration has become in the last two years in enforcing our trade laws. If the shoe industry were to come before the President and present him a demonstration that there has been 82 percent market penetration of the industry and the ITC were to rule unanimously that the industry was entitled to temporary relief, would you recommend that the President provide that relief under Section 201 under this new aggressive policy?

Secretary BAKER. Senator Cohen, I do not know, because before I jumped at one like that I would like to know a lot more about the situation.

Senator COHEN. I just described it to you. It is 82 percent owned by foreign competition now and the ITC has said there is serious injury as a result of that.

Secretary BAKER. I would like to know what the prospects are for recovery and a whole lot of things that I cannot know now as you put a hypothetical to me. So I really cannot answer that.

Senator COHEN. Well, it was not a hypothetical. It was an actual case that came to the President and he turned an indifferent ear saying, "No, I am not going to give any relief to the shoe industry, period." And that is why I made the point that the enforcement of the laws have been rather haphazard.

I recall with some chagrin, for example, that he did grant relief to the Honda motorcycle company some years ago under a Section 201. And as a matter of fact, Honda recently turned in its last year of protection that was granted by the President because it said it has recovered enough under the temporary relief that was granted.

Secretary BAKER. Was it Honda? I thought it was Harley-Davidson.

Senator COHEN. Not Honda. I meant Harley-Davidson. That is right, Harley-Davidson.

Secretary BAKER. Well, I cannot say anything, Senator, other than what I said, and that is that we have acted affirmatively in 4 out of the 6 cases presented. The record is that we have granted more import relief than any administration in 30 years. I acknowledge, I think, in my opening statement, that we did not do so in the case of shoes.

Senator **Cohen**. Well, it goes beyond shoes, because I can go down the list. The fishing industry recently filed a countervailing duty petition. They showed evidence of 26 percent subsidies by the Canadians. They were downgraded to about 6 percent by the Administration.

We have potatoes. We had a 36 percent dumping margin, not to mention a 30 percent exchange rate differential on the Canadian dollar, American dollar. They still found no injury there. It goes case after case, and frankly, the reason that you are seeing all of this activity on Capitol Hill is we have watched the jobs just disappear with no activity on the part of this Administration, or indeed, past administrations.

I am not singling out this Administration. Only when it seems that Congress is about to take some action do we see any administration start to enforce the existing laws which are currently on the books.

Secretary **Baker**. I would like you to exclude the actions that we began taking in September of 1985 from that statement, because we really did act before there was any move afoot on Capitol Hill, at least in the macroeconomic policy area.

Senator **Cohen**. You are talking about the specific cases when we started filing bills on shoes and textiles and semiconductors?

Secretary **Baker**. Yes, sir.

Senator **Cohen**. Frankly, it gives you some leverage. I notice that you do not really get any results, either in Japan over semiconductors, or Taiwan and Hong Kong over textiles, or the European community over soybeans, unless there is threatened action on the part of the Congress. Suddenly, you are able to make some breakthroughs when you see the heavy hand of Congress coming into play. Well, I guess it would serve you as well.

The final point I would ask—I know we have just 5 minutes and you have got to go soon—what if an industry simply cannot match the lower wages, let's say, of an emerging nation, and our technology cannot compensate and the industry itself simply cannot get down to 88 cents an hour or $1.10 an hour and that industry is going under?

Under your interpretation or vision of how the trade laws ought to operate, do you let the industries just go out and say you cannot compete because you cannot match that wage rate?

Secretary **Baker**. Well, I think that there are two approaches, Senator Cohen. One is to make certain that there is a certain degree of workers rights observed by the country in question, and the second is to provide transitional relief. That is why we have asked for $1 billion in worker adjustment assistance, not just trade related, but all worker adjustment assistance. And that is an integral part, I might say, of our competitiveness package.

Senator **Bingaman**. Under this earlybird rule, Senator Chiles is next.

Senator **Chiles**. Thank you, Mr. Chairman.

Mr. Secretary, the dollar has come under severe downward pressure in the last couple of days, going below 150 yen yesterday. We see that growth forecast for Europe was just revised downward, caused by slow exports demand growth. The Paris agreement was that we would support the dollar if they would stimulate their economy. No major stimulation has occurred so far.

We can correct our trade deficit in two ways, through dollar depreciation or by our trading partners stimulating their economies. The first way makes us poorer; our exports buy fewer imports. The second way would provide world expansion and make it stronger.

What evidence is there that our trading partners are living up to their agreement and stimulating their economies?

Secretary **Baker**. Well, I think that there is some evidence of that Senator Chiles, when you look, frankly, at some of the press stories that are coming from the two principle countries involved. The undertakings of the two major surplus countries in the Paris agreement were, on the one hand, in the case of Germany, to increase the amount of their 1988 tax cut—and they are doing that—and in the case of Japan to, once their budget is approved, take a look at some additional comprehensive economic measures.

Senator **Chiles**. How much is Germany increasing their tax cut?

Secretary **Baker**. Well, they will increase it, I think, at least by something in the neighborhood of five billion deutschemarks for 1988. It is possible, I suppose, that there could be more than that. But they have been going through some very difficult negotiations, having just had an election, they have got to get agreement from all of the elements of the coalition.

But let me just say this, Senator Chiles, I can tell you that it is my opinion, coming out of the meetings in Paris, that our trading partners, the surplus countries, recognize fully the importance of their carrying their share of the load and the importance of their stimulating their economies to the extent that they can consistent with maintaining their gains against inflation, because it is simply necessary if we are going to resolve these external imbalances.

Senator **Chiles**. Well, do you think that they have done enough that we should start supporting the dollar?

Secretary **Baker**. I am not going to comment on that because invariably, Senator, the foreign exchange markets read more or less into any comments that I might make than is intended. So they would read more or less than I intended almost regardless of what I said to you.

But let me say this, for our position with respect to the dollar, let me refer you to the Paris agreement, which said in no uncertain terms that currencies are within ranges that are broadly consistent with underlying economic fundamentals, and said further that we and others are prepared and willing to cooperate closely to foster stability of exchange rates around those levels.

Senator **Chiles**. I do not know whether to read more or less into that statement that you made, but it is bold. [Laughter.] That is all I have.

Senator **Bingaman**. Senator Pryor.

Senator **Pryor**. Thank you, Mr. Chairman. Mr. Chairman, also I would like to add my commendation to you and to Senator Glenn for holding these hearings. I think they are certainly timely. I know that Secretary Baker has a time problem, and I will try to make this very quick.

The Finance Committee, for the last several weeks, has been attempting to see if the country has a policy or a strategy dealing with what we call competitiveness. Today I think I will try to frame that a little more succinctly than we have had before the Finance Committee and the Administration witnesses.

Let me recreate a scene, Mr. Secretary: July 24th, 1986, House Government Operations Committee, Congressman Glenn English, Oklahoma, asked a question to the Office of Management and Budget Director, Mr. Jim Miller, and the question, basically, is trying to ascertain the Administrations policy on competitiveness.

I am going to quote Mr. Miller's direct answer, and I quote:

> As a general principle it is the position of this Administration that supply and demand should determine which products are produced by whom. If there is an opportunity for U.S. consumers to purchase from abroad products more cheaply produced than could be produced at home, they should have a right to do that. We do have compassion—

I am still quoting—

> And concern for the transitional effects with respect to the oil industry, with respect to farming, and the other industries that are adversely impacted by events.

Mr. English then comes back. He says,

> Wait a minute. I want to make certain that I am perfectly clear, because I want to quote you correctly.

And then he goes on to say what he thought that Jim Miller had said. Mr. Miller replied:

> We do have concern over transitional effects, but basically ours is not only a free society in terms of individual freedom, freedom of expression, but it is free also in terms of what actions consumers can take and what opportunities they have, and if they can purchase more cheaply abroad, they have a right to do so.

Now, is that the policy of this Administration, as expressed by Jim Baker, the Director—excuse me, there have been too many Bakers in the news lately—of Jim Miller, Director of Office of Management and Budget?

Secretary BAKER. Senator Pryor, I would have to say that this Administration is as committed, I think, to the principles of free enterprise and the free market as any administration to date in the history of this country. In terms of pure economic efficiency—because I really do not know the context in which he was testifying or the context in which the question came—but in terms of pure economic efficiency, that would probably be a reasonably accurate statement.

You and I know that there are other considerations that enter into these matters, and clearly we, as a Government, should try and offer our consumers as good a deal as the free market can present them. At the same time, it is necessary that we protect jobs, upon occasion; that we have due regard for national security considerations and industries that are important to national security.

But as you know, we preach to the world, "The more you can open up your economy and the more you can adopt free enterprise principles of economics, the better your economy is going to thrive." And we are a good example of that. And this economy has led the world for the past 52 months. Another reason we have a big trade deficit, to be very honest with you, is because we have outgrown everybody, and we are in the 52nd straight month—successive month—of overall economic expansion.

Are there problems in various sectors? You bet. And you and I know that some of the major problems are down there where we come from. That is the best way I know to answer your question. I think that dedication to free market principles and the free enterprise system is a strong tenet of this Administration.

Senator PRYOR. And is that true even if—and I really get tired of people using the unlevel playing field analogy—but even as long as we can buy cheap goods and we are at a disadvantage?

Secretary BAKER. No. That is what I meant when I said we need to make sure we protect jobs against unfair competition. We need to make sure that we aggressively enforce our unfair trade laws. As I indicated earlier, I think that we are doing, frankly, a first class job of enforcing our unfair trade laws and have been over the past 18 months to 2 years.

Senator PRYOR. Thank you, Mr. Secretary.

Senator BINGAMAN. Senator Sasser.

OPENING STATEMENT OF SENATOR SASSER

Senator SASSER. Thank you very much.

I would like to take this occasion to commend the Chairman and also Senator Bingaman for calling these hearings, and for Senator Bingaman's interest and the expertise that he has developed in this whole area. We are going to be looking to him increasingly, I think, for leadership as we deal with this whole thorny question of trade issues here in the United States Senate.

Mr. Secretary, I think you are aware from conversations or exchanges we have had when you have appeared before the Budget Committee—and also before the Banking Committee—that I am not in substantial agreement with this Administration's policy with regard to trade. In my view I think the Administration lives in a world that never was and certainly is not today, and that is a world of free trade.

I do want to commend you once again for the way you have taken the bull by the horns and sought to have the American dollar assessed at a more realistic level in the world's currency markets and not take the attitude that your predecessor took of just saying, well there is nothing we can do about that and we will let the currency market of the world determine the value of the U.S. dollar. I think by your efforts we have seen in recent months the American dollar set at more realistic levels on the world market.

Now, having said that I disagree most profoundly with this Administration's trade policy, or lack thereof, I think we make the mistake of blaming it all on the Administration and their policy on occasion and excusing the lackluster performance of American industry. I think we must recognize the fact that one of the reasons we are not competitive on the world markets is because our products are not competitive.

They are no longer competitive on the world markets and now they have reached the point where often they are not competitive on the domestic market. We are seeing the great American corporations now starting to abandon the playing field with regard to competition for consumer goods and move more and more into the defense area, because there you do not have much competition in the manufacture of goods for the national defense and you do not have to worry about competing as much there with the Japanese and the Germans as you do when you are building automobiles or electronic components or other things.

So I just want to make the point that although the Administration, I think, has some serious problems with their trade policy, I think that American business has a serious problem with the type of goods that we are manufacturing and trying to sell the American people and trying to sell worldwide.

Than you very much, Mr. Chairman. I ask unanimous consent that my opening statement be printed in the record.

Senator BINGAMAN. It will be printed.

[The statement of Senator Sasser follows:]

PREPARED STATEMENT OF SENATOR SASSER

Mr. Chairman, I commend you for holding these very important hearings today.

As our witnesses point out today, America today is an integral part of the global economy. Our country no longer sits astride the world economy, but the health of the American economy, in large measure determines prosperity or the lack of it in many parts of the world today.

For the past few years the American trade deficit has accounted for virtually all of the growth in world import demand. The trade deficit in 1986 was just about $170 billion, a 15 percent increase over the 1985 trade deficit. The trade deficit now accounts for a four percent share of gross national product—a characteristic often noted in the economies of developing countries.

The job loss due to the mounting trade deficit, by conservative estimates, amounted to some two million jobs, just from 1981 through 1983 alone. Since that time, I am sure that many more American jobs have been eliminated from our industrial base, perhaps never to be restored again.

I know that Secretary Baker and Secretary Baldrige are sincere in their desire to alleviate this situation. Secretary Baker has conducted a series of talks with the G-5 nations which have helped produce dramatic strides in bringing down the value of the dollar with regard to the Japenese yen and the German mark. But the progress with many of our trading partners, such as Taiwan, Canada and others has been very slow. In far too many cases, the value of the dollar has not declined, and our exporters have continued to find themselves handicapped in selling their goods abroad.

Certainly, two key elements of an economic competitiveness policy must be (1) the opening of foreign markets to American exports, and (2) the encouragement of our trading partners to use their trade surpluses to encourage global economic development.

A recent national poll taken by the U.S. News & World Report underscores this point. By a 64-29 margin, the American people said that "We should be much tougher with other nations and force them to open their doors to our products." This topped the list with regard to suggestions for a tougher trade policy. There was precious little sentiment for cutting wages and salaries to make products more competitive or following a blind protectionist policy and erecting barriers to bar imports into this country.

Just this past year, the U.S. Trade Representative issued the annual 1986 report on foreign trade barriers. This report documents in some detail the many trade barriers that face our export industries. Discriminatory tariffs, licensing requirements, restrictions on investment, restrictions on the provision of services abound. And I would submit that precious little has been done to bring down these barriers to our exports. Far too often we hear that we can not follow a protectionist policy with regard to trade and economic competitiveness. However, our trading partners have been following protectionist policies to a fare thee well for many, many years now, and our economy has been seriously injured as a result of these policies.

Secondly, it is imperative that our trading partners with major trade surpluses—especially Japan and Germany—bear a major responsibility for promoting global economic development.

I know that Secretary Baker and Secretary Baldrige would encourage this goal. But again progress has been slow. Secretary Baker, in October, 1986, for example successfully urged his counterpart in Japan, Finance Minister Miyazawa, to lower the discount rate and submit an expansionary budget to the Japanese Diet. However, less than two months later, according to press reports at the time, the Japanese Government approved the smallest spending increase in three decades. Here again, our trading partners are not living up to their responsibilities to promote sound global economic growth.

I offer these comments because I want my colleagues to know that as we consider omnibus trade and economic competitiveness legislation, we must continue to focus on these issues. For it will do us very little good to enact legislation that seeks to restore our ability to compete in the world economy, if our trading partners believe that they can continue to follow business as usual and shirk their responsibilities to reduce their massive trade surpluses and to share the burden of promoting economic growth evenly throughout the world.

Senator **SASSER**. Mr. Secretary, the dollar has declined by 40 or 50 percent against the deutschemark and against the yen and I think that has been partly a result of your efforts, for which I want to commend you. But why has the dollar's value not dropped against currencies such as the currency of Taiwan? They are a large competitor.

We are seeing the dollar drop against the deutschemark and the yen but we are seeing the dollar remain fairly static against the currencies of some of the countries on the rim of the Pacific, and that includes Taiwan, perhaps Singapore, Korea and others. But what is the explanation for that? What can be done about it?

Secretary **BAKER**. Well, Senator Sasser, we are talking to some of those NICs about the importance of their letting their currencies float, if you will, to more competitive levels, to levels that are more justified by their trade surpluses and their trade position. We have had ongoing discussions over a period of some months with Taiwan and with Korea.

There has been some adjustment in the value of those currencies against the dollar. Not as much, quite frankly, as we would have liked, and in all candor I would have to admit to you that we are somewhat disappointed by the performance to date. But we intend to continue these discussions, because we think, as you do, that it is important that these countries that have tied their currencies to the dollar let their currency strengthen in order to reflect their strengthened trade position.

Now, I should say that what really counts, of course, is real exchange rates, not nominal exchange rates. And some people come to me and say, why has the Mexican peso gotten weaker at a time when the dollar was declining against the main non-dollar currencies and so forth, and the answer, of course, is that they have got a significant degree of inflation there.

People make the same comment about some of the currencies of some of the other countries in Latin America, but we are talking about different things when we talk about the Newly Industrialized Countries of Southeast Asia and some of these other countries where inflation is so high that it is understandable that their currencies have not strengthened.

Senator **SASSER**. My time is up. Thank you.

Senator **BINGAMAN**. Secretary Baker, we were advised that you needed to be out of here before now. If you are able to stay longer we will ask some more questions, but if you need to leave we can understand that as well.

Secretary Baker. Well, I think I am probably good for about 10 more minutes, Senator, and that is it.

Senator Bingaman. Well, I am sure that we have at least that many questions.

Secretary Baker. I do not want to keep Secretary Baldrige waiting if he is here.

Senator Bingaman. If Secretary Baldrige does not mind a few more minutes, we will ask a few more questions of you.

Senator Glenn?

Chairman Glenn. Thank you very much.

Mr. Secretary, you mentioned the Administration's economic priority of months of expansion, but I would submit we cannot go on into the future with the kind of expansion we have had where we have added a trillion debt and where we have done the whole thing on borrowed money, including foreign financing—much of it—and that seems to me to be a major hazard, and we have had the most unbalanced budgets in all of American history ever, by far.

Secretary Baker. In nominal dollars.

Chairman Glenn. Well, in almost any kind of dollars you want to name.

Secretary Baker. Well, not as a percentage of gross national product.

Chairman Glenn. Well, "okay, we come back to percentage of this and that. The fact remains we have added a trillion dollars in debt—more than all the previous history of the whole country all added together—in four years.

Now, part of that goes over into our competitiveness area, our lack of trade, our imbalances in trade and so on, but we cannot expect foreigners to go ahead and keep on funding a good part of our debt for an indefinite period of time.

We did not do this like Maggie Thatcher. Maggie Thatcher basically set and said, "okay, we are going to cut programs and then we will be able to cut taxes." We did the opposite. We cut taxes and said everything will follow and it has not, and where does this end?

Secretary Baker. Mr. Chairman, you are quite right and that is why one of the main elements of the President's competitiveness package is eliminating and reducing the Federal budget deficit. I do think we ought to recognize that through some very courageous action on the part of the Congress, and through Administration initiatives, we have turned the corner—at least, in my opinion we have—on the fiscal budget deficit.

In 1983 we had a deficit that was 6.3 percent of GNP. This year, fiscal year 1987, with the reductions that have already been legislated—and frankly, they came in areas that we would not have chosen, primarily defense, but nevertheless they have been legislated—practically everyone agrees that the deficit will come in somewhere in the neighborhood of $175 billion. That is a $40 billion deficit reduction from 1986, and it is 3.9 percent of GNP. That is too high, but it certainly is on a path of downward progression.

Chairman Glenn. I know, but it is $130 billion beyond what Ronald Reagan the candidate said was a disaster when Jimmy Carter proposed $41 billion. He said that was going to be a disaster for us, and here we are talking about $170 billion being a great leap forward.

Secretary BAKER. Well, if you are going to compare nominal dollars in 1980 to nominal dollars in 1984, let's look at what the gross national product is today as a consequence of 4 years of expansion. It is $4.5 trillion. It is a great deal higher. I am not suggesting we ought to carry this fiscal deficit, because we should not. And therefore reducing it is one of the main objectives of the President's competitiveness program.

We agree with you. We have got to continue to do it. The way to do it, if I may say so, is not to raise taxes. It is to do it on the spending side where we are spending at 24 percent of GNP. We are taxing at 19 percent, which has historically been where we have taxed the American people, 19 percent of GNP. But we are spending a lot more than we used to as a percentage of GNP.

Chairman GLENN. Well, I will yield the balance of my time so we can have 2 or 3 people get at least one question in on the second round.

Senator BINGAMAN. Senator Roth?

Senator ROTH. Yes, I would like to ask you one question, again going back to Japan and what they are proposing with respect to the Japanese international banks. As I understand it, the Japanese banks are going to sell off their loans to a new jointly owned subsidiary as a means of handling the problem of the Third World. Is that a logical approach for this country as well?

Secretary BAKER. Well, there is a fair amount of uncertainty about that proposal, Senator Roth, but it is my understanding that the Ministry of Finance in Japan has not ruled that they will get a tax writeoff for doing so and that the deal is conditioned on their getting a tax writeoff.

I do not see similar action on the part of this Congress if we were talking about doing the same thing in the United States.

Would it make it mechanically easier to deal with? Maybe. But I think the real emphasis behind this suggestion is a tax writeoff, and there is some question about whether that is going to come to pass.

Senator ROTH. Thank you.

Senator BINGAMAN. Secretary Baker, I asked you this once before when you were before the Joint Economic Committee. I still see a major inconsistency between the President proposing initiatives to make the country more competitive on the one hand and proposing drastic cuts in Federal funds for education on the other, particularly vocational education, which is one of the things that relates directly to capability of the work force. I would be interested in how you reconcile the President's interest in this subject as stated in his State of the Union address and the budget that he has recommended to the Congress?

Secretary BAKER. Well, Senator, you did ask me that question and the answer is the same as it was before the JEC, and that is basically that vocational education, in our view, should be a State and local responsibility. Only one dollar out of every 10 that is spent on vocational education is spent at the Federal level.

The same answer is the answer I would give you in terms of cuts in the education budget. The Chairman has just talked about this deficit that we have got to get a handle on. We have got to meet the Gramm-Rudman-Hollings targets, so we have got to find some areas where we can reduce the Federal load.

This Administration philosophically believes that education is best handled at the State and local level, more efficiently and more effectively. There will be an overall increase in 1987 in the funds that are spent in the Nation for educational purposes, but it will come at the State and local level, notwithstanding the fact that we are asking for a cut in the Federal budget on education. The Federal funds that are spent nationally, as you know, constitute only 7 percent of the total money spent on education in the United States in any given year.

Senator BINGAMAN. Is it fair to say that the cuts are proposed in areas of Federal spending that are considered low priority in dealing with this problem by the Adminstration?

Secretary BAKER. Well, no, because education and human capital needs is an area of high priority, as indicated and evidenced by the President's competitiveness proposal. But again, the concentration on improving education ought to be at the State and local level, not at the Federal level.

We have said basically what Senator Sasser said. The problem here is a whole host of things that need to be addressed. One of them is our educational system, one of them is the whole structure of our business and industry sector. Are we as competitive as we should be just in terms of the product we make? Are we still lean and mean and that sort of thing?

Senator BINGAMAN. Senator Pryor?

Senator PRYOR. I am going to pass right now.

Senator BINGAMAN. Senator Sasser, did you have a final question for the Secretary.

Senator SASSER. Yes. I always have a final question for the Secretary, Senator Bingaman.

Mr. Secretary, the economists believe that there is a so-called "J curve" effect when you reduce the value of your currency. There will be a time lapse and after a period of time your trade deficit will be reduced.

Now, we have reduced the value of our currency, yet we continue to see our trade deficit widen. When are we going to feel the effects of this J curve? When is the trade deficit going to start narrowing?

Secretary BAKER. Well, as I indicated earlier, Senator Sasser, we are 18 months away from the Plaza Hotel. That is when we first really started this in terms of substantial movement. I think you are already seeing the effect, because I think we have seen the trade deficit level off. We have not seen it turn down yet, but we have seen it level off. If you look at the last 6 months of figures month by month, it is no longer going up the way it was before, and I think that is due, at least in part, to the exchange rate changes.

Senator SASSER. I saw some figures the other day that indicate a GNP growth of 2.5 percent, I think, for 1986, but a demand growth of 4.5 percent, and the difference between the 2.5 and the 4.5 was made up by imports from abroad. In other words, they are picking up half of the demand growth in this country.

Secretary BAKER. I did not think that our domestic demand was quite at 4.5, but that is entirely possible.

Senator SASSER. I am just speaking from memory, but the point is as our demand growth goes up here it is being satisfied with imports coming in from abroad.

Secretary BAKER. But as you pointed out, Senator, as the exchange rate changes begin to be translated into pricing as opposed to just eating the differential—which is what some companies exporting to the United States have been doing—you should see that figure change.

Senator SASSER. One final note, Mr. Chairman. I hope that we are going to see those figures change. I fear though what we are seeing is that our people are willing to pay as much, or even extra, for foreign goods because they perceive that many of them are manufactured better, that they are of higher quality, and they will pay a premium for foreign goods and we may not be able to deal with this problem as effectively as we first hoped by simply reducing the value of our currency.

Secretary BAKER. I think that that is certainly an element in there, Senator Sasser, and the Secretary of Commerce, who is experienced in these things in the private sector, I am sure will tell you that once you lose market share, it is tough sometimes to get it back. But we are working at it.

Senator SASSER. Good.

Senator BINGAMAN. Thank you.

Secretary Baker, we appreciate your coming very much.

Secretary BAKER. Thank you, Senator.

Chairman GLENN. Secretary Baldrige, we will be glad to hear from you now.

This afternoon Senator Bingaman is our Ad Hoc Chairman in this subject of competitiveness and I have turned the gavel over to him for the hearing, but I wanted to welcome you personally this afternoon. I appreciate you making time available for us.

We would welcome your statement, or an abridged version thereof, whichever one you choose to make. In either event they will be included in the record in full. We welcome your testimony.

TESTIMONY OF HON. MALCOLM BALDRIGE, SECRETARY OF COMMERCE [1]

Secretary BALDRIGE. I think, Mr. Chairman, that we have seen the President establish the national goal of assuring American competitiveness preeminence into the 21st century, and that is so important for all of us. The package that he sent to Congress last month launches his 6-part program to accomplish that. We are under no illusion that that in itself is going to get the job done, that is, Government action.

Many of our proposals are based on the need to further reduce Government's role in private sector affairs, because that Government involvement does distort the decision making process too many times. It makes for a lot of bad decisions, and even the good ones often get made for the wrong reasons. We feel the shortest route from here to there is through reduced Government expenditures, reduced interference in the market place, and reduced regulatory burdens.

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[1] See p. 249 for Secretary Baldrige's prepared statement.

There is a role for Government, however. The biggest responsibility, even with the Governmental role, has to rest with the competitors among our companies in the market place. Those are our firms, large and small, that are trying to survive and prosper in the global market place. As a Government we should provide a stable economic climate.

Businesses need economic certainty so they can plan effectively and invest efficiently in new product designs, and we need to avoid situations like the last decade when rising inflation and interest rates whipsawed American business and held us back. Businessmen did not know how to plan ahead when they could not predict what was going to happen to inflation or interest.

We should constantly be looking for ways to get out of the market place as a Government, not get into it. We should not be making choices that the private sector makes best. We should undertake initiatives only when we are convinced that the payoff is there, and then we should get out of the way after the fuse is lit. Government should not be in competition with the private sector.

I think the President's program, with other initiatives already underway, contains, in my view, the right mix for the country. I will not go through the President's program again, Mr. Chairman, because I know Secretary Baker just went through the 6 points and I do not want to take up your time with that. But I would like to point out that we are talking here about a competitiveness package when I think, to most of the public, they get that confused with the trade bill.

Our idea is to have, yes, the trade bill as part of the overall competitiveness package. But as you know, we have sent up other parts of the bill to other Committees where it will be acted on—first in the House—besides trade. And some of those other competitiveness areas are very important to American business.

The clarification of the Foreign Corrupt Practices Act, the strengthening of intellectual property rights, amending our antitrust laws in some degrees—those are all actions the Government can take to reduce barriers and increase our competitiveness. And of course, a vital part of any program is reducing the barriers abroad that we run into in trying to sell our products.

We are going to propose a number of changes to our trade laws, Mr. Chairman. We need fast-track authority to implement agreements that we negotiate in the new GATT round. We will not have credibility without it. We are proposing refinements to Section 201 and 301 of the 1974 trade act.

We have proposed changes to our anti-dumping and countervailing duty laws to deal with circumvention problems we have had and to clarify the bench-marks for dealing with goods from nonmarket economies. And we have proposed changes to the Export Trading Companies Act to make sure that that program is more accessible and truly promotes exports.

Then, the President did include a number of initiatives in the area of science and technology. Most of our firms do not take advantage of our unparalleled technology base, and in some cases our competitors make more and better us of it than we do. We have got to make sure that Federally financed technology is more readily available to our firms, and we are seeking ways to spin it off and put it to work.

We are working cooperatively with State Governments and private firms to pioneer new manufacturing technologies and introduce process control and quality assurance into the manufacturing process.

I know of this Committee's interest in trade reorganization, Mr. Chairman, so I would like to make a couple of observations about that. First, as this Committee knows, the Administration supported trade reorganization in the 98th Congress. In the following year the Administration decided not to submit a trade reorganization bill—we had too many other legislative priorities—and the issue has not been formally broached within the Administration since then, so in effect there is no Administration position.

At this time, Mr. Chairman, I would be happy to answer any questions you might have as best I can. Thank you.

Senator BINGAMAN. Thank you very much, Secretary Baldrige.

Senator Roth, would you like to start?

Senator ROTH. It is always a pleasure to have you before the Committee, Mac. I have to state as I sat here I noticed that this Government-issue pen was made in Japan. I guess that is part of our problem.

But anyway, we worked together, you and I, in 1982 and 1983 in trying to form a trade department, and we got a bill through this Committee through a bipartisan effort, and I am interested in what you believe should be done.

Do you support the creation of a department? Would you elaborate on what advantages or disadvantages you feel the creation of a trade department will bring? And would this not be a good time to initiate such an effort so that the new administration could follow through and there would not be the transition problems that there would currently.

Secretary BALDRIGE. Well, Senator Roth, I am certainly not going to change my stripes on this particular issue. I made the disclaimer that the Administration does not have a position on it, so I am speaking from a personal point of view. I was in favor of it, and the last two or three years have not changed my mind. It has strengthened my own personal conviction that trade reorganization is something that we need.

We need it because the negotiating arm and the implementation—the arm that carries out the negotiations—should be lodged in the same office. Second, one repository for trade makes for a much stronger voice for trade than having it spread around throughout the various departments.

I think that it is important in considering that whole question that the individual who would be responsible should be backed up by not only the USTR group and the International Trade Administration group in Commerce, but also by the Economic Affairs group in Commerce who makes up the GNP, the leading indicators and so forth—works on them—and the Patent and Trademark Office, and probably the National Bureau of Standards.

That group together does encompass most of the major trade and commerce functions. It has the institutional memory, the expertise, to provide all of the background that a strong trade secretary would need.

Senator ROTH. Well, the way the situation currently works, you really have a division of responsibility that makes little sense organizationally, and I think you alluded to that. First of all, the Department of Commerce is responsible for data collecting and analysis, but negotiations are the responsibility of the USTR. When it comes back to the question of implementation, it goes back to the Department of Commerce. Is that not pretty hard to justify, organizationally?

Secretary BALDRIGE. Well also, the USTR gets a lot of facts—backup information—from Commerce in the first place. I have been very fortunate as Secretary of Commerce—and I really mean this—to work with two outstanding USTR's. We have been able to make this work. It has taken some extra coordination time. There is no question about it. And you have to make sure that your organization feels—on both sides, both the USTR and Commerce—that they are brought in as a part of things. And it is just too easy to get fouled up on the gray areas that exist between our departments.

But I have been fortunate in working with 2 outstanding USTRs and we have made this work. I would sure hate to see the day when a Secretary of Commerce and a USTR either did not get along or were the lesser, turfier kind of bureaucrats, because that would drive a split down through the whole process. Now, I believe we do make it work, but I personally do not want to trust that for the long term.

Senator ROTH. In other words, it depends on a special relationship between the 2 individuals, and that means spending much needed time on coordinating rather than in dealing with the problem of trade itself.

Let me ask you about a problem with this kind of organization. Is it not a fact that our trading partners know how to utilize this split very well? And I am not talking, again, about the USTR or the Secretary, but if you cannot get from one agency what you want, you go to another, you play them against each other. Have you found that to be the experience?

Secretary BALDRIGE. Oh, I think they have all learned that part of the game, even the newest ambassador or trade minister from abroad understands that. They trudge around the halls and they go and see the USTR and the Secretary of Commerce and the Secretary of State and the Secretary of Treasury—they see us all—and they can get a feel about who is a little more sympathetic, perhaps. So that is used strongly.

I am not advocating, by the way, Senator, that there should not be a very strong interagency coordinating process where every concern that Treasury or State, Defense, what have you, Agriculture, might have would not be thoroughly aired and vented. The Economic Policy Council would be an outstanding group for that because that is high level.

Senator ROTH. One last question, and a very important one, is that I think it is important that we attract, recruit, the best possible people and that we offer them the kind of professional career that they will be happy to stay within it. As I watch what has happened too often, some of our best people come in for a while but then they leave because of lack of opportunity.

Secretary BALDRIGE. Yes, sir. You see abroad a great many countries where it is a very proud thing to have a career in their trade department. It is certainly true in Japan, it is true in the UK, Germany and France. Here, there is a lot of pride in becoming a professional State Department employee. We are trying to build up the pride in the foreign commercial service, which is part of Commerce, the whole trade function.

It would be a lot easier to build up that pride and that esprit and to attract the very best people if you had trade centered in one place. You would get better people overall.

Senator ROTH. My time is up. Thank you, Mr. Chairman.

Senator BINGAMAN. Senator Glenn?

Chairman GLENN. Thank you, Mr. Chairman. I would like to ask about your view on a Department of Science and Technology. I have been concerned that we are just beginning to come under increasing competition in research. We have been preeminent in this area ever since World War II and before, to some extent. Now we see other Nations having more disposable national income to put into this area and we are beginning to be out-competed in some selected technology areas.

It would seem to me that we are still pretty much fragmented all over the lot. I could see an organization that would encompass the functions of the National Science Foundation, of NOAA, of maybe even NASA, perhaps, the Bureau of Standards, national labs.

Would we not have a much better coordinated handle on research that is going to be increasingly important in the future if we had one organization administering this, rather than having it all over the lot?

Secretary BALDRIGE. That is a very complicated question, Senator. I am not trying to duck it, but the Administration so far has not been for that. In working with some of those organizations myself, I see enough difference in their own goals, NOAA, NASA, and so forth. Outfits like that need guidance and they need strong leadership. They need somebody to check up, too, to make sure that they are not, in effect, running down the wrong street every once in a while.

But to put them altogether would make a science bureaucracy that I for one would have to look at and study very closely before I could get enthusiastic about it. I could see some drawbacks to that. That is not a very conclusive answer, but I have not really had that in front of me to study enough to give you more than an offhand opinion.

Chairman GLENN. Okay. Well, we are concerned about addressing the organizational aspects of competitiveness and whether we are keeping up and making the most efficient use of dollars spent.

Well, let me change direction a little bit here. Is there any other major industrialized power in the world with whom we have major relations or major trade that does not have a Department of Science and Technology or some similar organization?

Secretary **Baldrige**. I am afraid I am not an expert on that, as you are, Senator. I do not know the correct answer to that.

Chairman **Glenn**. I do not, either, quite frankly. I am not at all sure whether there is or not. But I know that most of them that I am familiar with seem to have one department that oversees all of this and coordinates the research so that they do not have different groups going off, with their own goals, to quote your words back to you.

Too often, I think, some of our groups have their own goals and they are not coordinated, and we have somebody doing basic research in a lab someplace, and we have DARPA, and we have NASA, and we have NSF trying to fund this research. The individuals and agencies may not even know what is going on in other areas. It seems to me that we would do much better if we had most basic research coordinated in one spot. And that to me would be a department of science and technology of some kind.

Secretary **Baldrige**. I really could not answer that offhand without studying that concept a lot more, and particularly which outfits would be in it. For instance, our national laboratories now are more or less under—more, rather than less—the Department of Energy.

Then you have got NASA more or less on its own. You have got NOAA as part of the Commerce Department. Sometimes they act like they are on their own, but they are part of the Commerce Department. I think it would depend on what we tried to put together before you could just give an off-the-cuff answer.

Chairman **Glenn**. Well, I agree with that, and I would appreciate it if you had time to cogitate on it just a little bit, and if you could give us any help on that. I am very serious about this. I am not trying to bait you.

If we go that route or push for that route, I want it to be on the good basis that we are really going to accomplish something with it, not just do it to do the usual Washington business of cover something up by forming another Committee, Commission, or whatever.

Secretary **Baldrige**. I would be glad to give that some thought and see what our ideas would be on that.

Chairman **Glenn**. I would appreciate it very much

In another area, earlier Mr. Baker said he is not in favor of toughening our regulations on foreign investments in this country.

Secretary **Baldrige**. He is not in favor of what?

Chairman **Glenn**. He is not in favor of toughening our regulations on foreign investments in this country. Now, I believe that "Business Week" has reported—I do not believe it quotes you—but I think it indicates that they feel you favor some limitations on foreign investments in certain areas; is that correct? And if so, why?

Secretary **Baldrige**. All I want, Senator, is to have a review Committee, which as you know, is CFIUS, the Committee on Foreign Investment in the United States, set up by Executive Order to carry out our investment policy. Part of the charge they are given in the Executive Order, and I will quote here, is: "To review investments in the United States which in the judgment of the Committee might have major implications for United States national interests."

I think that we have been as open or more open to foreign investment than perhaps any country in the world. CFIUS has looked at, depending on the year, everything, anywhere from 2 investments to 15 investments or 20 investments. They probably average looking at less than 15 of all the thousands of investments that are made by foreigners in the United States.

And they have only turned down during that time, during the last 5 or 6 years, they have turned down 1—at the most, 2—investments. Foreign countries around the world turned down, you know, many, many more than that. So, I do not think we have run hog wild.

Now, how do you define this charge? What is a national interest? What do you mean by that? My point, and what I was quoted on, is that I think we should get the interagency group together and have them define what they are going to look at, what CFIUS is going to look at, what they should look at, what kinds of things, and establish at least some broad guidelines.

Now, it may be that the guidelines are we are not going to look at anything, let anything go. But that is not the way it is set up now, and we, I think, need a clarification here so that we will all know. I might have my ideas, some others in the Administration might have others.

Chairman GLENN. Thank you. My time is up.

Senator BINGAMAN. Let me ask, Mr. Secretary, about the semiconductor problem. You have been a very aggressive player on this issue and have worked hard to try to bring some justice out of the situation.

I have been concerned about the disjointed way in which the issue gets handled in the Executive branch. You have taken the lead, of course, in trying to get some trade policy. We now have the Department of Defense considering a proposal to improve the ability of the industry to survive through a semiconductor institute as recommended by the Defense Science Board.

Do we have a real disconnect here? Do we have a situation where something has to be defined as a national defense problem and put under DOD's budget in order for us to have the political will to deal with it? Is that the situation?

Secretary BALDRIGE. No, sir.

Senator BINGAMAN. Or is this more appropriately something that your Department should have been able to take the lead on, get the manufacturing capability up to speed?

Secretary BALDRIGE. No, sir. I have no problem with the way things are proceeding. I am not talking about or trying to prejudge the outcome now, but as far as who should be responsible for what, this has proceeded quite normally.

We at the Commerce Department are responsible for dumping investigations. We took this up to the President's attention, and self-initiated dumping cases on semiconductors against the Japanese. We found that they were dumping from margins of 20 to 80 percent. Now, this bothered me and our Department and a good many in the U.S. Government because this dumping had run about 6 American companies out of business.

There have been about 30,000 high tech jobs lost as a result of dumping. The area of dumping was in memory chips, which are the simpler kinds of chips. They lend themselves to high volume. The other kind of chip, as you know, the smart chips are microprocessors, computers on a chip, ASICs—Applications Specific Integrated Circuits—and so forth.

The Japanese are ahead in memory chips. We are ahead, by and large, in logic chips, the more complicated kinds of chips. The Japanese seem to be on a clear drive to, in effect, take over all of our memory chip business. And when we found dumping—and we still now today have at least 3 or 4 U.S. companies selling the simpler kinds of chips, the memory chips that the Japanese almost drove us out of business on.

Now, on the more complicated chips, logic chips, that is where the question comes up of future Japanese actions. What did the Fujitsu potential takeover of Fairchild mean? Those are the kinds of things that I think are in our national security, in our national interest to look into, because the next step after logic chips is taking over the smart chips, the logic chips.

If they are to come after memory chips, then we would have lost the semiconductor race completely, and that means losing a good deal of the high technology race. It means eventually losing the computer race, because the latest advances in chips are what makes the computers.

This is a serious thing to us. It is to me, personally, because I happen to understand what is going on there. I talk to people in trying to explain this who, unfortunately, do not know what logic or memory chips are, things like that, and they see some of our big companies still going along.

But I think it is something that we should be paying some attention to as a Government. Now, when you get into making of the chips, we are still ahead of the Japanese—I say still, I hope we will continue to be—in the smart chips, that is, the integrated circuits, the logic chips.

We are still ahead of them, we still have a greater share of the world's market than the Japanese do. What the Defense Department, the thought that they are entertaining is not a trade issue or investment issue like I was concerned with. They are talking about financing a consortium of chip manufacturers to develop the most modern and keep ahead in the most modern methods of manufacturing.

And the question is going to come up before the U.S. Government, should Defense fund that or should the private sector finance it completely. I myself have not formed an opinion on that yet because I have not seen the way it is going to be set up and the arguments pro and con. But I will tell you, Senator, I think it would have to be looked at very carefully if we are talking about the Government financing a manufacturing consortium like that.

I would have to be really satisfied of a lot of things before I could go along with that. My first reaction would be we had better go slow on it.

Senator **Bingaman**. My time is up. Senator Sasser?

Secretary **Baldrige**. I am sorry, Senator, I took most of your time, I am afraid.

Senator **Bingaman**. Well, I will come back with another question afterward. Thank you.

Senator SASSER. Thank you, Senator Bingaman.

I want to welcome you today to the Committee, Secretary Baldrige, and just say that as Secretary of Commerce you are the spokesman for American business in this Administration, just as Secretaries of Commerce have been the spokesmen for business in other Administrations, and frankly, Mr. Secretary, I would like to see a message go back to American business that they are failing.

American business, in my view—and I think in the view of the overwhelming majority of American consumers—is failing. It is failing to compete in quality with goods coming in from abroad, whether they are coming from Germany, France, Japan, Korea, wherever.

In fact, I think in all too many cases "Made in U.S.A." has come to stand for poor quality and unreliability in the eyes of the average American consumer, to the point now that we see one of the fast growing businesses is the sale of after-market warranties or after-market insurance policies by the manufacturer saying they will replace the product or repair it at a low rate or free of charge. The American consumer has come to believe that if they buy an American product—many of them—that they are going to be right back in the repair shop in the not-too-distant future.

Now, business has been saying for a number of years one of the problems is American labor. Yet, we have seen in my native State of Tennessee the Toshiba television operation come in there, buy a factory from an American manufacturer, use the identical same labor force that the American manufacturer was using, and reduce the number of defective sets coming down the line by something like 1,000 percent.

In my State of Tennessee, Nissan has moved in there, as you know, at Smyrna. They have begun assembling first light trucks, and now their small automobile, and the quality of those light trucks that they are producing, using American labor, is equal to or superior to the quality of the same like truck produced in the Japanese home islands. And this is from statements made by Nissan executives to me, American labor but using Japanese management techniques.

Now, I think our problem in American business is that our people are losing sight of the fact that the end product is all you have to sell, and if that is no good it does not make any difference how good your internal management practices are or what sort of cost accounting system you have got, you are just not going to sell it.

And our manufacturers, our people who could get down there and build things, I think, have been run off by the fellows with the MBAs who are just concerned about this quarter's profits and earnings as opposed to the long term reliability or acceptability of the product.

Now, some will come and say, well, you know, you are talking, Senator, about assembly line goods and we are not interested in that any more, we are going to high tech. Well I say, how in the world are you going to do that when the Japanese are turning out more engineers every year than we are with a population half ours.

And this Administration is just exacerbating that problem by taking away from the expenditures for education. Let's just take the budget this year. Expenditures for education make up 2 percent of the Federal budget, yet Secretary Bennett was before the Budget Committee testifying in favor of 20 percent of the total budget cuts coming out of this 2 percent that we spend for education.

And we talk about jobs, yet we see that since 1979 well over 50 percent—if memory serves me correctly—64 percent of the jobs that have been created in this economy pay less than $7,500 a year. I fear, Mr. Secretary, that what we are witnessing is the de-industrialization of the United States of America, and I think American business has to take a large share of the blame for that.

Now, I have had my say, and you are the spokesman for American business in this Administration and I have a high respect and a high regard for you and I would like to know what you have to say to my assessment.

Secretary BALDRIGE. Well, Senator, what is the question? I mean, I am serious. I do not know which part of that you want me to talk about.

Senator SASSER. Just any part you want to.

Secretary BALDRIGE. Well, let me start from the back end, when you are fearing the de-industrialization of this country. I cannot agree with you sir. The figures simply do not support that.

Senator SASSER. Well, I hope I am wrong.

Secretary BALDRIGE. What has happened, if I may, Senator, is this. In 1960 the share—and that is when, 10 years after World War II, we were riding high in the world then, industrially—in 1960 the share of the GNP that manufacturing contributed was 20 percent. In 1970 the share of the GNP that manufacturing contributed was 20 percent. In 1980, it was something like 20.5, 20.6. In 1985 it was 21.8.

Now, I do not want to say that that increased, although it did a little. I want to say that the share of GNP that is due to manufacturing has kept constant within a percent for the last 25 years. That does not indicate any de-industrialization of this country, and the last figure in that series was 1985.

Senator SASSER. Mr. Secretary, if I could just ask you one question here, and I do not mean to be argumentative about this, but when we look at the percent of manufacturing of GNP of our trading partners around the world, are we not seeing that the percent of manufacturing of their GNP is continuing to go up in a stair-step fashion while ours remains steady?

Secretary BALDRIGE. No. I think what you see is in some cases on the percentage that we had of manufactured goods as a percentage of world trade, they have gone up, but that is because the Japanese and the NICs, the Newly Industrialized Countries, have taken more of the total. It does not mean that we have fallen back, it means that they have taken more of the total. But our share of manufacturing is about the same size as it was as a percentage of GNP.

Now, what has happened, Senator, is that employment in manufacturing has gone down from 1960 to 1985. In 1960 the manufacturing employment as a percentage of total employment ran about 30 percent. In 1985 it ran about 20 percent. So that has gone down. And those jobs have by and large gone into the service area. I mean, there are enough new jobs in the service area to be able to hold unemployment to where it is.

But the reason for going from the 30 to the 20 percent—and this has happened in other countries as well as the United States—is that as we become more efficient with new techniques in manufacturing, they use less people per unit of output. And that happens all around the world.

And that is what has happened. And when people say, well, look at our steel industry and our automobile industry, and so forth, they overlook the fact that that is happening in Europe, it is happening in Japan, it will continue to happen as we go through a restructuring. We are not going to end up with the same steel industry as we used to have in the 1950's, and we cannot and be competitive.

We are going to end up with a smaller and a more modern steel industry, as one example, more dependence on many mills and other specialty kinds of steel mills. If we did not, we would not have any steel industry at all, because that is the way the world is going. So, all of those cross currents are in there, but I cannot say that we have been de-industrializing this country.

Senator SASSER. Well, my time is up, but I cannot help but say this, Mr. Secretary. When we talk about moving people from manufacturing jobs or assembly line jobs into service industry jobs, that generally means lower wages, that generally means a lower standard of living. And we have been seeing over the past decade the real purchasing power of the average American worker declining and continuing to decline.

But my point is that I think we are becoming less and less competitive in the world economy, and I do not think there is any argument about that from economists, whether they are liberal economists, conservative economists, or middle of the road economists. They all agree that we are becoming less and less competitive. And my point simply is that I think American business has to bear part of the responsibility for what is occurring.

I do not think we are doing the job on the business front that we ought to be doing. We are supposed to be the bastion of entrepreneurship, the last great frontier of free enterprise here in the United States, and we are just not succeeding, in my view.

Secretary BALDRIGE. Senator, I would agree with everything you said if you would put that in the context of the 1960's and the 1970's.

Senator SASSER. Let me just say this and I will not interrupt you any more. This is not something that has come about in the last 6 years. This is something I think that began over a decade ago. But I think we are seeing an acceleration of it, and I do not see any policies on the part of this Administration that are moving us back in the direction we ought to go.

Secretary BALDRIGE. Sir, that is where I would have to disagree in your last statement. I would have to disagree 100 percent. In the 1960's and 1970's was when we lost our lead, quality and everything else. We lost it because the Germans and the French and the Japanese had to export to live.

We did not have too. Our manufacturers could live off a growing, good U.S. market. But the rest of them had to get into international competition to live and they got sharpened up on quality, cost, and everything else. So we got passed by in too many cases.

That brings us up to 1980, let's say. Things started to get really bad then, 1980, 1981, 1982, as far as competition and lack of quality. American businesses all of a sudden had their backs to the wall. They had to start going through what their foreign competitors did. And I have seen company after company, Senator, who in the last 5 years have reduced their overall costs by as much as 25 to 30 percent, who have increased their quality by a factor of 4 to 5.

Now, you can say that they should never have let it slip off, but they are bringing it back and they are becoming competitive again. I see the trend definitely going back toward U.S. companies becoming competitive, not because the Government is preaching at them or anything else, but because they have to. They do not have any other choice, and you are seeing the managers understand that now, and when they do not, they get fired. So I think that that worm has definitely turned. I see too many cases where that is true.

Senator SASSER. Well, Mr. Secretary, thank you very much. I do not want to impose upon your time any further, or that of the Committee's, and perhaps at some juncture we might even discuss this at some length privately. I would like to do that. Thank you, sir.

Senator BINGAMAN. Senator Glenn, did you have other questions?

Chairman GLENN. Yes, just a couple here. Just to follow on the same thought Senator Sasser had, even when we were becoming competitive though, the strength of the dollar literally wrecked us in international trade.

Secretary BALDRIGE. That is true.

Chairman GLENN. And that was because we did not have a handle on our domestic economy here. And I mentioned earlier, I think before you were in the room, when Secretary Baker was here, I think the way Prime Minister Thatcher went at this—you know, she and President Reagan are kindred souls, so the press keeps telling us—but I think she went at this thing a little bit differently. She said, "we will cut back on our expenses of Government and then we will cut the taxes."

We did it the other way around and the economies of Government and of running the country never materialized, and so here we are with a trillion dollars of additional debt. It was a different situation.

We do not know once we get by the strength of the dollar—which we have passed now—we do not know how long it takes to really get back whatever markets we are going to get back. Can you give us your view on that?

Secretary BALDRIGE. Yes, sir.

Chairman GLENN. I know Secretary Baker says we have at least leveled out.

Secretary BALDRIGE. Well, I am not usually more optimistic than Secretary Baker. We are in pretty close agreement on most things, but I am more optimistic than he is on this. I think we have turned the corner. I think we turned it, really, in February. And in case you think that is an overly brave statement—we have not seen the February figures yet so we will have to check—I may be wrong, but I think we have.

The reason I say that, Senator, is that we have seen the volume of imports drop in the fourth quarter of last year, and that will continue into this first quarter. And the unit volume has dropped.

Let's take a country like Japan. So they are not sending us as much in the ways of goods as they did before, because the yen has strengthened so much. When you translate that into dollars it makes the dollars look high—the J curve that Senator Bingaman was mentioning earlier to Secretary Baker—but the volume has definitely dropped.

Now, that J curve begins to fade out after a while, and, at least if I had to guess, I would say that would be happening sometime in this quarter or next quarter. I think we will see a lower trade deficit, the trade deficit start down, not the second or third or fourth quarter, but I think we will see it start down in February and March of this quarter that we are in now.

I think we will see the trade deficit diminished by $30 billion this year, and I think probably the same will be true next year, another $30 or $40 billion, so we can get it down to $100 billion. Now it is going to get tougher after that.

When you say, what will it take for our companies to regain market share? That is an excellent cautionary question. It is difficult, very difficult, to get back markets that you have lost. That is one of the reasons that the Japanese and the Germans and the French have not cut their prices even though their currency has strengthened against the dollar. They have eaten the extra costs and diminished their profits because they want to hold on to market share.

That cannot keep up forever. You have seen Japanese companies. In the last quarter of the last year, the leading, I think, 100 companies in Japan had a profit drop of almost 40 percent. That is how hard this is hitting them because they are trying to keep up their prices in the U.S. That cannot go on forever. So I think we will see a change for the better and we will see it very soon.

Chairman GLENN. Back to semiconductors again for just a minute. To follow Senator Bingaman's questioning earlier on that particular issue, the Economic Policy Council, I believe, is supposed to meet tomorrow. Are you going to recommend to the Council that sanctions be imposed?

Secretary BALDRIGE. I really cannot answer that question, respectfully, Mr. Chairman. We have given the evidence that we have gathered on a very extensive search during the month of February as to what happened in Third World countries.

We have given that to the trade policy review group, I think it was at the end of last week or the beginning of this week. They are studying it and they are going to make their recommendations which we at the EPC can take, or we do not have to take. We can make our own. But that will be discussed then. And I really do not want to say anything before we have the meeting.

Chairman GLENN. Okay. I think we are all concerned about the time lost in Governmental processes in coming to grips with something like the semiconductor issue or other industrial groups. And

I think that is one reason why there is an interest in a Department of Trade, or something like that, because our established policy making apparatus does not seem to really be able to give a very timely response.

By the time we get around to putting in some sort of curb or the International Trade Commission or the Trade Representative negotiates something, the wreck has already happened, people are unemployed, the factories are shut down.

It takes a year or a year and a half to get any effective action taken and that is one reason why I have favored some change, so we had some standing institutional forum that could operate much more rapidly than we do now. We see things happen but we are not capable of institutionally of coming to grips with the problem before the wreck has occurred, the jobs are gone, and the market is lost.

Would you comment on that? I do not know. If a Department of Trade would do this, fine. Is there some sort of institutional arrangement, or Council on Industrial Competitiveness, which would accomplish this? Is there not something we can do to take more timely action?

We no longer have the luxury of a 5-year period or 10-year period as we see industries rise and go down, and we can respond then in the first or second year.

We now see whole industries coming up and down now almost over night. And it seems to me that we are always behind the curve on our response time. And not only are we not looking ahead enough, we are having one group charged with the looking ahead and trying to foresee these things. Once we see the thing actually occurring, however, we seem to be locked into our institutional procedures that do not address the problem in a timely fashion. Would you comment on that?

Secretary Baldrige. Yes, sir. I think that gets back to the whole Governmental system of checks and balances. You give up some things to get others. I think that in the private sector that I am used to, organizations, say industrial companies, are set up to make good things happen, what they feel are good things. They organize for certain goals and what are the best ways to get there.

The U.S. Government is set up not to have bad things happen. And that is a different way of looking at it, but it is true. It means the checks and balances that are in our constitution. But what a lot of people outside the Government do not realize is all the checks and balances that we have in the Executive branch and the checks and balances in the Legislative branch.

It means that every idea, every action, gets vented out very, very thoroughly so no silly idea can get through easily. But in order to have that safeguard, it means that it is very hard to get quick action in the Government. I think, yes, a consolidation of trade would certainly help towards speeding up the action.

I do not think it would solve even half the problem, though, because I think over half the problem is the institutional outlooks of other departments, the fact that they would like to make sure that they are heard on the whole subject, that their constituency is not effected adversely for the wrong reasons.

So I think it is the nature of Government to be somewhat behind the curve, and if we sped that up we could run the risk of making some mistakes.

Chairman GLENN. Well, inertia is not all bad in Government, I agree, not completely bad. It is like in the Senate—thank heaven we do not have a lot of the poppycock things proposed get through—inertia sometimes has its advantages in forcing us to weed some things out.

But I guess you mentioned many different interests. We have business, we have labor, we have Government all involved in this problem and with trade and competitiveness. And the question is how do we get an early consensus between all of those groups?

Now, I was out of the room for a short period of time. I do not know whether you addressed this, but do you think a Department of Trade would help alleviate some of that? And would you see the Department of Commerce being folded into that? How can we organize government to better get an early consensus?

Secretary BALDRIGE. Senator Roth did ask me about that and I explained that while the Administration backed trade reorganization—I do not remember the year exactly—but 3 or 4 years ago. The next year it did not because there were too many other items on the legislative agenda that we wanted to get through first. So we do not have an Administration position for or against trade reorganization.

But my personal opinion—and it is not an Administration position—is that if you reorganize trade so that the Secretary of Trade and the USTR are, in effect, one person—the USTR, the International Trade Administration, the Economic Affairs section of Commerce that makes up the GNP, the leading indicators, Patent and Trademarks, and perhaps the National Bureau of Standards—if those were together in one department, the Secretary, who would also be the USTR, would have all of the resources he needed to back him up in any survey he wanted to make, any set of negotiations he wanted to undertake, any ideas he wanted to bring to the rest of the Administration. He would have his own crew of experts.

Now, that is split up. The USTR does the negotiating and Commerce implements, carries out the laws. Again, I think that ought to be in one place. Whoever negotiates the arrangement ought to be responsible for carrying it out.

Chairman GLENN. Well, would that not fit then right in perfectly with what is proposed in S. 374 to have a Council on Industrial Competitiveness that would include many of those functions? That might be far more palatable and easier to get passed than trying to create a whole new department. Would you favor the Council?

Secretary BALDRIGE. No sir, I could not, because that, as I understand it, would bring people from perhaps management, labor, academia, Government together. Every time I have seen that happen, they all, in effect, of necessity almost, have to promote—or feel they do—their own particular group interest, their own constituency. And I have not seen that much consensus come out except on some very, very broad avenues, nothing too specific.

The second point I would make, Senator, is that no group like that can make industrial policy, if I may use that word. Nobody is that smart. I certainly do not think I am that smart, and I do not think anybody else is, or no other group. I have never seen a way to beat the decisions the free market makes yet.

Any time you get different competing groups together to try and force a compromise that may not be consistent with the free market, it will not work over a period of time.

Chairman GLENN. I do not think any of the ideas on the Council of Industrial Competitiveness try to get us away from the free market. It just was trying to get, I think, all the different interests together to try and arrive at that early consensus that we just do not seem to get around to. We do not seem to make our decisions ahead of the curve and we wait and pick up the pieces after the wreck and try and recoup too often.

There ought to be some way that we can take more timely action, because I think our timeframe to make decisions has been compressed just by the nature of things.

And my time is already up.

Senator BINGAMAN. Mr. Secretary, if I could just clarify one thing and then ask a question. The Council on Industrial Competitiveness would be an advisory group. It would not be in a position to make any kind of industrial policy. That is my understanding of the way we drafted the proposal.

But let me just ask a concrete case. There has been a lot in the newspaper in the last few days about the breakthroughs in superconductivity. Evidently in the last few months there have been some major scientific breakthroughs in this area and it is expected that this could have enormous commercial applications.

The Friday Wall Street Journal had an article saying that the Japanese Government is organizing. The Japanese Science and Technology Agency announced its intent to form a research consortium of Japanese companies, universities, and Government labs. The objective is to organize industry to get the jump on the West in applications and commercialization for a huge new market.

Now they obviously think they can pick winners, and they are obviously going forward at a dramatic rate to get this done. Is it your view that our Federal Government should not take a proactive role in this kind of an area when there is a scientific breakthrough that holds promise like this?

Secretary BALDRIGE. Well, it depends on what kind of a role you mean. I think that the use of our national laboratories on some of these applications is perfectly proper and probably beneficial—undoubtedly beneficial, because they are a national treasure. The program we have suggested does allow for private-public partnerships there.

In the various colleges and universities where we have talked about partnerships for applied sciences, ceramics, high technology type of things, I think this could go very well in there. We have suggested to the Congress that any inventions or new processes that came out of those kinds of things could be kept by the laboratories or the universities themselves for resale or barter or so forth.

So I think there is a point of cooperation there. But if you mean, Senator, that the U.S. Government should say, well, that looks like a good deal so we will give the companies that want to get into the manufacturing, we will underwrite them, or underwrite their financing somehow, I would be very much against it, because MITI thinks they can pick winners, but their track record, from what most of us can see, has not really been over 50/50, and almost anybody could pick like that.

They tried to force the automobile industry in Japan to go from 6 companies—this was 15 or 20 years ago—down to 3 companies and the automobile companies refused. And they have been very successful, obviously, without that. MITI encouraged the aluminum producers of Japan to make aluminum, and they have had real losses on that. That has not been a success. You could say the same for petrochemicals. So they just have not been infallible by a long shot.

Senator **BINGAMAN**. I understand that research can be done at the various laboratories and it can be coordinated with industry. But is there any place in the Federal Government, your Department or elsewhere, that would have the responsibility to pull together those groups that have a concern about this, some of the laboratory people, some of the industry people, such as they are doing in Japan, to ensure that we maintain a leadership position in the application of these research discoveries?

Secretary **BALDRIGE**. Well, it depends on where that is leading. First, there is the National Science Foundation that is the granting agency to grant funds to universities and colleges, technical schools, to work on specific projects. And they could work on the idea of taking a superconductor and how you are going to manufacture that, your applications of it, in an economic way that is technically feasible.

Then there is a Science Adviser to the President who could have a role in this. It is possible that the Defense Department, their research arm, may see enough defense interest in this to look at it as a possible investment for them in the research part of it. But it also could be applied research for manufacturing.

There is not one button you push for all of those, and I am not sure it would be a good idea to have that one button, because then you would have another kingdom set up, and who decides. I mean, we all tend to want to go back to let individual companies in the free market make that decision. They will do it better and weed out the losers a lot more quickly.

Senator **BINGAMAN**. Thank you very much. Did you have other questions, Senator Glenn?

Chairman **GLENN**. Just a couple. I know it is getting late, Mr. Secretary, and I appreciate very much your sticking with us here.

I understand you are proposing to privatize the National Technical Information Service, NTIS. Is not the appropriate function of Government to collect and disseminate data and not make it just the responsibility of whether some private company can make a profit on that service, bottom line on the P&L?

Secretary **BALDRIGE**. That is, I think, a proper role for the U.S. Government, and I can tell you, Senator, we are not going to make that private unless we can be sure it is going to work better and at less expense than what we are doing as a Government. In short, I do not have an ideological hangup about the fact that that has got to be kicked off into the private sector. What we are going to do is look at any ideas that people have or any potential arrangements they would like to make.

If it looks like it makes sense, you know, we would go further with it. If it does not, it is going to stay just like it is.

Chairman GLENN. Well, I know that no matter how much we might expand that service, it is not going to be able to make enough money to balance the budget for us, but I understand it is an actual money maker for the Government.

Secretary BALDRIGE. Yes, it is.

Chairman GLENN. And it has a reputation for being one of the better run shops in your whole operation—not that the whole Department is not well run, of course—but it has an excellent reputation.

Secretary BALDRIGE. Yes.

Chairman GLENN. And I feel that if something is that important to us and important to business in this country, if it is not broke, you should not mess around with it too much.

Secretary BALDRIGE. I know what you mean, Mr. Chairman.

Chairman GLENN. Just a general comment or two here that came up earlier. I wanted to respond briefly to something Secretary Baker said earlier in response to a question with regard to education. The Administration's proposal to cut back from $19 billion to $14 billion in education he responded to by saying that, well, education has never been funded more than 7 percent from Federal money anyway, and I agree with that.

But that is true for elementary and secondary, but the Federal is a much higher percent of support for secondary education and for doctoral and post-doctoral work. That load was taken over after World War II by the Federal Government, and it is an area where we are beginning to be less competitive than ever. To take over a 20-percent cutback, almost a one-fourth reduction in funds, when many of the funds are going into critical areas and cutting back the ability for our kids and people to do advanced work, well, I just think it is wrong from a competitiveness standpoint.

We need to be in there out-competing other people in this area. The figures now say that doctoral candidates in this country in the physical sciences are more than 50 percent foreign.

People come here and get their education and leave. They come here, get that, and then shove off and out-compete us when they get back home. And I think when we do not support our own kids in that area it is tragically shortsighted.

The other area is in basic research. When the Administration first came in they proposed cuts that in the aggregate would have meant a 29-percent cut in basic research, the basic nobel laureate seminal breakthrough-type research that we used to form whole industries in jobs, employment, and so on. And Congress objected, and so the cut did not occur.

It has been one round of things after another if we try to get money into research and as we see Japan, Germany, France, and others beginning to out-compete us in certain fields. And I think if there are two things that have made this country what it is, it is education for all of our people, particularly higher education, and basic research.

If we lay down our lead in these two fields or we are not in there competing, I think it will be the death knell of competitiveness for the future. That is more of a statement than a question, obviously, but I wanted to respond because Secretary Baker made the comment about education earlier, and I wanted to put that in the proper context.

Just one other thing, back to the NTIS issue. Should we allow other nations to subscribe to NTIS publications unless we have the same rights in their country?

Secretary **Baldrige**. Well, actually, I have never had that question come up. That is a very interesting question. I would first have to find out where we did not have that right.

Most of our problem, I think, has been in not having enough people that speak the language in some of the newly Industrialized Countries. Japan, of course, is not newly industrialized. But Korea, Taiwan, Singapore, that whole Pacific rim is going through a tremendous growth period, and not just of average kinds of jobs.

They are getting more and more into high technology. You are going to see India go the same way in the future, because they have the largest pool of highly educated people who are underemployed or unemployed, and that is a perfect repository for high tech people to move in and use those educated people. We need somehow to get a marriage of both language skills and scientific skills if we are going to keep up.

Chairman **Glenn**. Thank you, Mr. Chairman.

Senator **Bingaman**. Thank you very much, Secretary Baldrige. We appreciate it very much.

Secretary **Baldrige**. Thank you, Senator. Thank you, Mr. Chairman.

Chairman **Glenn**. The Committee is now recessed.

[Whereupon, at 4:35 p.m., the Committee recessed, to reconvene at the call of the Chair.]

GOVERNMENT'S ROLE IN ECONOMIC COMPETITIVENESS

THURSDAY, MARCH 26, 1987

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 9:30 a.m., in Room 342, Dirksen Senate Office Building, Hon. John Glenn, Chairman of the Committee, presiding.

Present: Senators Glenn, Sasser, Roth, and Bingaman.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. The hearing will be in order. Today we continue with the second of our hearings on competitiveness and trade. Yesterday we heard from Treasury Secretary Baker and Commerce Secretary Baldrige who outlined the Reagan Administration's policy response to our Nation's difficulty in competing in the world marketplace.

To date, the response of the Administration has been at best weak, and I feel, at worst dangerous. While the President urges the Nation to make a quest for excellence, the priorities in his proposed budget for the coming fiscal year reveal a lack of commitment on the part of the Government to do its share, especially within the constraint of lowering, not raising, the budget deficit.

By the same token, the Administration has embarked on a perilous strategy of reducing our trade deficit through excessive reliance on exchange rate policy, which carries with it the risk of recession and inflation. But there is another way to solve the vexing problem that our huge trade deficit is symptomatic of, and that is to enhance the competitiveness of American industry.

Competitiveness is the modern buzz word. To be sure, there does not even exist an consensus on what the word "competitiveness" in this context means. It is my hope that at today's hearing, where we have a truly distinguished panel of witnesses, we will make progress toward achieving such consensus. It is also my intent today to explore with these experts ways to devise a sensible public policy that redresses the problems that plague our industrial sector.

Let me assure you that I am not under any illusion that the solution to these problems will be cost free. In the short run, it will be tough going and critical choices will have to be made. It seems to me that in this regard an appropriate role of Government is to at least cushion any economic dislocations that may occur.

In the long run, however, if we choose the right policy path, one that is predicated on a realistic assessment of America's role in the world economy as well as on the notion that a solution must entail a joint commitment by business, labor and Government, then we will be far better off.

At this point I would like to ask that the statement of Senator Heinz be made a part of the record.

[The opening statement of Senator Heinz follows:]

OPENING STATEMENT OF SENATOR HEINZ

Mr. Chairman, I am very pleased that we are reviewing the organization of trade policy, and thank you for calling these hearings.

We have impressive witnesses. I am familiar with their writings, and their recommendations for trade policy are outstanding. Like Pat Choate, and Professor Porter, I have reservations about establishings a single Department of Trade. Trade and our ability to enter international markets are cross-cutting questions of policy, exceeding any single Cabinet department. At the same time, duplicative and contradictory functions of Government must be unified. Federal agencies must support, and not work against, the private sector's effort to complete.

Clearly, unifying trade policy must be a priority, but the policy itself needs to be clearly understood, and trade policy encompasses far more than just trade itself, but includes monetary policy, education, technology development, and worker adjustment. The majority of business decisions are in response to Government actions. Yet those actions seldom take into account their impact on our ability to complete.

As we heard yesterday, however, the Federal Government cannot cure the long-term, structural nature of our competitive problems. Government does set the environment in which we complete and we have an obligation to remove the hurdles which Government places in the way of competitiveness.

A failure to invest adequately in worker adjustment and education is a prime example. In the Finance Committee, I am hopeful that we will be able to address this issue in the near future. But without the ability of both Government and the private sector to establish a partnership on job creation and expansion, training and education will not succeed. We need to know what our workers are training for.

With that example, Mr. Chairman, let me say that I welcome the witnesses today, and look forward to reviewing their testimony.

Chairman GLENN. Let me say to our panelists that, as was indicated to you in advance, if you can, limit your initial remarks to 10 minutes and then we will go into questions and answers. In either event, your entire statement will be included in the record.

In addition, I hope we can get a good exchange from all of you back on forth on the questions so we can see your various points of view, and we do have various points of view represented by this panel.

Dr. Fred Bergsten is the Director, Institute for International Economics, and is accompanied by Dr. I.M. Destler, also from the Institute for International Economics. Dr. Pat Choate is Director of Policy Analysis for TRW. Stephen Cohen is Professor of Planning, University of California at Berkeley and Co-Director of the Berkeley Roundtable on the International Economy, and Michael E. Porter is Professor of Business Administration at the Harvard Business School. That is indeed a distinguished panel.

Gentlemen, we look forward to your testimony this morning. I understand that Dr. Bergsten does have to make his way to another commitment at 11 a.m., I believe, although his colleague, Dr. Destler, will remain throughout the session, so Dr. Bergsten, if you would lead off, we would appreciate it.

TESTIMONY OF DR. C. FRED BERGSTEN, DIRECTOR, INSTITUTE FOR INTERNATIONAL ECONOMICS,[1] ACCOMPANIED BY DR. I.M. DESTLER, SENIOR FELLOW, INSTITUTE FOR INTERNATIONAL ECONOMICS

Dr. **Bergsten**. Thank you very much, Mr. Chairman. It is a pleasure to be before the Committee again.

I want to briefly make 2 analytical points and then throw out 3 suggestions on organizational questions that I know are within the purview of this Committee.

The first analytical point is to suggest that our trade problem is even worse than most people think. We had a trade deficit last year, even on the balance of payments definition, of $150 billion. We are becoming a debtor Nation at a rapid pace. By the end of the decade we will be paying at least $25 billion a year in net interest to the rest of the world.

Our oil import bill is almost certain to rise again, perhaps substantially, both because domestic production is down, and probably because prices will again rise. When you put that all together, we probably need to achieve an improvement of something like $200 billion in our merchandise trade position from where we were in 1986 to get back to anything like balance in our current account position.

Some people would say we should go further and aim to restore the traditional surplus in our external accounts, but even to get back to balance is going to require an improvement of something like $200 billion. That is 4 to 5 percent of GNP. It is an enormous swing, but in my view that is what is required.

The second question is why have we gotten into such a trade deficit? What is the analysis of the problem? Three basic theories are offered. One is that unfair foreign trade practices and the lack of a level playing field have done us in. To be sure, there are unfair foreign trade practices. I, and others at my institute, have looked at that question very carefully in the Japanese case. Studies have been done of other countries.

The conclusion is that, whereas foreign barriers are important in absolute terms, probably backing out $5 billion to $10 billion a year of our exports to Japan, they are only a small part of the total trade deficit problem, maybe 10 percent. So it is not insignificant, but it is a minor share.

The second thesis is that we have an underlying competitive problem in our economy, that something has gone wrong with our management system, our educational structure, the underlying panoply of our basic competitiveness. It is a very tough one to analyze, but my own judgment is that we do not face a severe underlying competitive problem.

No, I hasten to say we should do everything we can to maximize the excellence of our education system and, devote resources to productive R&D, and effective worker training programs, and avoid export disincentives. All of those things are important. But as I look at the record, it is hard to conclude that the U.S. has an underlying problem of trade competitiveness.

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[1] See p. 268 for Dr. Bergsten's prepared statement.

I reach that judgment by looking back to the most recent period before the dollar priced us out of world markets. In the late 1970's—1978 to 1980–81—we had a period when U.S. exports were growing twice as fast as world trade. We recouped market share in every single sector of manufactured products and every single geographical market, in some cases back to the levels of the 1960's.

Our current account balance improved by almost $60 billion in just 2 years, from 1978–80, excluding the direct adverse price effect of the second oil shock. And even with that factored in we moved into current account surplus as recently as 1980–81.

If you look at the period since then, productivity in manufacturing has grown by almost 4 percent a year, which is certainly good by our historical standards, and even good by international standards. So I find it very hard to conclude that there is an underlying fundamental competitiveness problem that plagues our economy.

That leaves me with the third set of explanations, which I basically endorse: Poor macroeconomic policies both here and around the world, translated into an excessive exchange rate for the dollar, which rose—depending on your index—by 60 to 100 percent between 1980 and early 1985.

If a company—and you know this well—had its prices rise by 60 to 100 percent against its competitor down the street in four years, it would be in Chapter XI bankruptcy status. But that is what happened to the United States as a country. We priced ourselves out of world markets via the exchange rate.

The exchange rate in turn mirrored the huge growth in our budget deficit, the very high real interest rates that sucked in capital from around the world, the reductions in budget deficits in other major countries which pushed them into capital exports and trade surpluses. In my view, it is that panoply of macroeconomic problems that basically caused the enormous growth in our trade deficit and its adverse effects on our economy.

The dollar now, has come down by 35 to 40 percent over the last two years. Why has that not reduced the trade deficit? In fact it has reduced the trade deficit. The deficit would have been considerably higher last year in the absence of the declining dollar.

But more concretely, in the fourth quarter of last year real net exports expanded by $15 billion and, in fact, contributed more than 100 percent to the total growth in GNP. And it may be that the fourth quarter of last year began to usher in the era of export-led growth which the economy must experience over the next 5 or so years.

However, we always have to realize that it takes 12 to 18 months on average for a decline in the exchange rate to play through to a reduction in the recorded trade numbers. And this time the lag might be even longer because the dollar was so overvalued that foreign firms built up huge profit margins and could run them down before they had to increase price.

Important to remember is that the economic adjustment to the overvalued dollar did not begin in early 1985 when the dollar peaked, but at the end of 1985 or early 1986 after the Plaza Agreement made clear that the U.S. wanted to see a dollar that was declining and the world began to believe that the dollar was coming down to stay, and by a major amount.

And so, if you date the beginning of the so-called J curve from the end of 1986 or early 1986, one would never have expected a reduction in our trade deficit to show up until the first half of this year or even later. I am confident it will happen. I think we will see our deficit come down by $30 billion to $40 billion this year and again in 1988, which is good progress.

But it would still leave us with a deficit uncomfortably close to $100 billion, meaning that much further adjustment action is needed, primarily in terms of getting our own budget deficit down, finding ways for Germany and Japan to expand domestic growth in their economies substantially, and probably some further exchange rate changes, both against the major economies and against the developing countries in Asia.

I agree with your initial statement, Mr. Chairman. We should not rely completely on exchange rate changes for the rest of this adjustment. That is going to require some important changes in underlying macroeconomic policy both here and abroad, but it is that I would look to as the primary means to get our external accounts back into balance.

Having said all of that, I derive 3 implications for policy on the organizational side, which I know this Committee focuses on in much of its work. The first derives naturally from what I suggested: the need to make sure that international monetary and macroeconomic policy does not again foul up our trade position.

How can it be that our country let the exchange rate of the dollar rise to such a level that it priced us out of the world market? The answer is that the relationships between the monetary issues and the trade impact were totally ignored. It is interesting, when you look at the original submissions of the Reagan Administration in 1981, as kind of a residual they did give a trade forecast for 1984, a trade balance they foresaw of $70 billion.

The only problem was they had the sign wrong. They predicted a trade surplus of $70 billion by 1984 when we had a trade deficit of $70 billion in 1984, suggesting they really did not look at it very carefully. I and others predicted at the time that the inevitable consequence of those policies was an enormous rise in the value of our currency and our competitiveness, and therefore our trade balance would deteriorate enormously. Indeed, it happened. The key point is that trade considerations simply must be factored into international monetary policy and macroeconomic policy on an ongoing basis.

You have before you, Mr. Chairman, S. 330, that I know Senator Roth has been interested in. It has a provision for setting up something called a Council on International Trade, Economic and Financial policy, which would pursue precisely the objective I have in mind. One cannot legislate, of course, an amalgamation of policy elements within any administration. But the issue is so important that I think the Congress should try, and requiring this kind of organizational arrangement to fuse together the critical monetary and macro issues with the trade issues would be very worthwhile and should be included in any trade legislation passed by this Congress.

The second organizational point gets away from the trade deficit and I mention it only briefly. That is to avoid the bifurcation which clearly now exists between the USTR and the Department of Commerce in managing U.S. trade policy. My colleague Dr. Destler has written what I happen to think is the definitive book on that topic, analyzing why that bifurcation is a structural malady. The problem is muted at the present because the current players have been working well together, and I do not wish them any harm and really have little criticism of them. However, it is a structural problem.

I disagree with Senator Roth's idea and that of others to create a Department of Trade, because I think trade is too important. Having a Department of Trade would simply mean a single Cabinet member would be representing the trade interests in a world in which half a dozen other Cabinet agencies inevitably and properly will also have a continuing interest in trade policy.

I think the Congress has made the right call on this issue in the past, going back to 1962, when it created the Office of the Trade Representative and strengthened that office in 1974 and 1979. It requires a White House operation to coordinate the inevitably numerous agencies that will be involved in trade policy.

And so I would recommend that the Congress build on what it has done in the past: strengthen the USTR, roll all of the trade functions of Commerce into a new independent U.S. trade administration operating under the USTR, outside the Executive Office of the President but reporting to the USTR. It seems to me that is the way to avoid the bifurcation and move in a constructive way.

Finally, there have been a number of proposals, including some in the legislation before you, to take steps in the direction of what was called 3 or 4 years ago industrial policy. That is a bad word now and we do not use it. I do so only for shorthand in this context.

I do think, from my Government experience, we have a real problem when we come to address the difficulties faced by individual industries when they come in for import relief or other government help. The problem is we have no idea of what the future evolution of those industries is likely to be, let alone what we would wish them to be. I think we need to find a way, either within our existing Government structure or through some new device, in which we would at least develop some projections of the future—visions, as the Japanese call them—of where our industries are going, see if that looks at all consistent with our economic and even national security objectives, and thereby having a baseline against which to judge proposals for change when they inevitably come in,

Such an operation could also try to achieve greater consistency among the different policy approaches we adopt toward individual industries, and it could monitor what is going on in industries abroad to see whether those might in fact cause threats to our own economic and even foreign policy interests in the future.

Mr. Chairman, that would be my set of recommendations, based on a view that we do have a major competitive problem. However, it relates mainly to macroeconomic and exchange rate issues. The basic thrust of current policy to address those is correct but needs to go much further, and there are some organizational changes that could help pursue those goals. Thank you.

Chairman GLENN. Thank you very much, Dr. Bergsten.
Dr. Choate?

TESTIMONY OF DR. PAT CHOATE, DIRECTOR OF POLICY ANALYSIS, TRW, INC.[1]

Dr. CHOATE. Thank you very much, Mr. Chairman. My testimony begins with a recognition that if we were looking back in time from the year 2000, we would probably see that the United States had been through 3 major economic eras.

The first extends from around the time of Alexander Hamilton to about the period of the first world war. It was a development period in which the United States pursued a policy of industrial self-sufficiency. We relied very heavily upon high tariffs. We were an isolated Nation, and we did very well in achieving those objectives.

The second period extends from the first world war until the late 1960's and early 1970's. This was the free trade era. It was a period in which the United States aggressively pursued open markets. We were propelled into this policy not only by its theoretical advantages but by the fact that after two world wars, we wound up with a preponderance of the world's industrial capacity. In a world that was desperate for U.S. goods and services, American workers and firms were willing to lower trade barriers.

Since the 1970's, we have increasingly been moving into a third era, an interdependent era, in which our economy has become deeply and irrevocably involved in the global economy. In this third era we have shifted dramatically from economic isolation to economic interdependence.

Now, as we take a look at this third period, we find ourselves dealing with a very different set of economic, political and structural problems, both here and in the global economy. The mounting debt of the less developed nations, the shifting character of trade, the very fact that 70 percent of our industries face competition here in this market—up sharply from 20 to 25 percent in the early 1960's—the declining ability of many American firms to meet the competition head-on here or abroad, are only some of the manifestations of the changes and forces with which we are going to have to contend.

The basic point that I am making in my testimony is that today the United States lacks the policy tools and the processes that will enable the Congress and the President to define and focus their policies effectively to meet these new challenges.

Now, whether or not most of our trade problems are caused by macroeconomic policies is largely beside the point. In my own view, the macro factors have made a major contribution to our declining trade capacity and dealing with those issues is essential. But in themselves I believe that they are insufficient.

There are a number of other major policy considerations that are going to have to be addressed, such as the relentless pressures on firms for short-term performance; the shift in so much of our technology efforts away from attempting to make major breakthroughs toward refinements of older technologies; and the inability of our workers to deal with job and occupational shifts in a swift and competent manner. And these are just a few of many policy issues that must be involved.

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[1] See p. 280 for Dr. Choate's prepared statement.

I think it important, also, for us to recognize, as the Harvard Business Review pointed out in an article a couple of years ago, that about half of the decisions of business are made in response to the decisions of Government. I dare say that if we were to take and enumerate that ratio, we might even find it to be higher.

The problem that we have is that so often the decisions of Government are made without consideration of their implications on business and competitiveness. Over the past 4 years, a number of studies have attempted to look at what must be done to deal with the startling confusion that appears to exist and the incoherence that exists in Government's micro-economic policy making.

In my testimony I identify a series of those studies that involve hundreds of leaders from across the political spectrum, from business, from Government and from labor. What those studies call for is greater coherence. And to achieve that coherence, they further suggest that a neutral broker roughly equivalent to the National Security Advisor is required some place in the Executive branch of Government, probably in the Executive Office of the President. This neutral broker would, in effect, be a national competitiveness advisor—someone who can reconcile the Government's many policies as they affect economic competitiveness.

Second, the majority, or many of these studies—to be fair to the studies—call for something like a competitiveness assessment or a competitiveness impact statement be created to measure and attempt to anticipate the effects of Government decisions upon the competitiveness of the Nation before those decisions are taken. This would enable the President and the Congress to consider fully the implications of decisions prior to their being made.

Third, these studies call for the ways and means to marshal data and information so that all the facts would be available to the executive and legislative branches and decisions could be made on as solid a basis as possible.

Now, I note that the bills that were sent to the panel ahead of time really address these 3 basics. There are variations in how that would be addressed. I think the important factor in these bills, however, is that they, in effect, are saying that the time has come for us to make competitiveness here and abroad a top national priority, and that the tools and processes are being put into place so that the competitiveness implications of decisions can be fully considered.

When we go into a question and answer period, I have some comments on each of those specific bills and will be pleased to elaborate further. Thank you.

Chairman GLENN. Good. Thank you very much. Professor Cohen.

TESTIMONY OF DR. STEPHEN COHEN, PROFESSOR OF PLANNING, UNIVERSITY OF CALIFORNIA, BERKELEY, CODIRECTOR, BERKELEY ROUNDTABLE ON THE INTERNATIONAL ECONOMY [1]

Dr. COHEN. I will try to be very brief. The testimony we submitted outlines our basic views on the questions put to this panel so right now I would like to pick up on what Mr. Choate was saying, because I found myself very strongly in agreement. Competitiveness issue is really an issue of the wealth and power of the United States; I do not think our competitiveness problem is simply a problem of macroeconomic policy.

Agreed, the macroeconomic policies of the last years have vastly exacerbated our problems, but it is not simply a quantitative question of toting up how much. Reversability cannot be assumed for instance, someone referred to the "fact" that barriers to American trade represents perhaps 10 percent of American exports to the Japanese market.

In a static sense, yes, but the dynamics are quite different. In a static view, a barrier to an industry in its early phase represents only a small amount of lost business for the United States. But in a dynamic sense, what it really represents, is an effort to change the world position in that industry. Therefore simply trying to count up how much of American growth is lost, how much of American power is eroded at any particular time is grossly misleading. It blinds us to the strategic question.

If barriers, in say the Japanese market or some other market succeed in arresting the potential leadership of a young American industry—semiconductors as an example to the benifit of that nation's producers, later on that cumulates into a massive loss in economic leadership.

The second comment concerns definitions. We are talking about something called "competitiveness". One key element of the definition our group provided to John Young's Commission on Competitiveness was the defining idea that competitiveness is the ability to compete in international markets with high and rising wages.

It is always possible to balance the national accounts at some rate of exchange. At one yen equals one dollar we could sell the Economics Department building at the University of Chicago to the Japanese to use for disco space, but we would be a very poor nation.

The trick is to compete with rising real wages, rising real incomes. This means the burden of readjustment, if it is put entirely on an exchange rate, means we are competing by impoverishment. It is a particular way of redistributing economic decline. It is not the route we must choose.

Towards these ends, the legislation that was presented to us makes the points Pat Choate showed us so very clearly. We need greater coherence in our policies. We have countless examples of American policy taken with no thought as to the international economic implication. One example will suffice. We made what was perhaps the most important opening in international trade negotiations several years ago when we opened our market in telecommunications. But, we never cast it as such and we neglected to demand a quid pro quo. It was nice being a country that was powerful enough and rich enough to bestow that sort of largess in the world whether through generosity, or stupidity, but we no longer are rich enough or powerful enough. We have to be smarter.

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[1] See p. 59 for Dr. Cohen's prepared statement.

The failure to coordinate the right hand with the left hand in our policy making has become disastrous. And again, we have lost that wonderful margin of easy economic superiority over everyone else that permitted us to avoid strategic thinking, that permitted us to avoid the difficulties of coordinating policies, that permitted us to focus on military competition rather than economic competition and that permitted us to balance the world's economic system.

We now have to absolutely focus on restoring that economic preeminence. It will not be easy. We have a vast amount of work to do, and the first steps have to be the ones we are talking about now.

You ask about information. Our industries do not have good information on competitive developments abroad compared with what is available to our best foreign competitions. We should be concerned about the quality and permanence of the people in Washington who have such knowledge. We should be very concerned about what happens to those people after they pass through a tour in the Special Trade Representative's office. Where do they then go? Are they a national resource or are they a resource for somebody else?

Regarding the ability to assess a competitiveness impact—it is not just analogous to an environmental impact statement. It is a way of thinking. And I think Pat Choate was quite right, you cannot legislate attention to the major economic problem when each particular bit of legislation comes up.

We must begin to address these things in a very conscious effort, and whether we lodge the agencies that worry about this in something analogous to the National Security Council or a department is, frankly, outside my particular expertise.

What I am worried about is the consistently wrong and conflicting signals our policy organization gives, and the inability to make important, strategic decisions that results. These are the questions I hope we will turn to in our discussion period.

Chairman GLENN. Good. Thank you very much. Professor Porter?

TESTIMONY OF DR. MICHAEL E. PORTER, PROFESSOR OF BUSINESS ADMINISTRATION, HARVARD BUSINESS SCHOOL [1]

Dr. PORTER. Thank you, Senator. It is a great privilege, as others have said, to have the opportunity to speak before this Committee on this important topic.

I, perhaps, come to the Committee with a somewhat different perspective than the other witnesses. I spend most of my time working with companies, helping them compete, both domestically and internationally. I am an economist but I try to play that down as much as possible. Most of my research and consulting focuses on the practical aspects of competition in real markets.

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[1] See p. 337 for Dr. Porter's prepared statement.

From that perspective I have had the opportunity, through service on the Young Commission and a number of other occasions, to spend a great deal of time considering the competitiveness of U.S. industry. And I think you have truly exhibited genius in picking this panel because my views are somewhat different from some of the other panelists. I would like to try to summarize them briefly and we can then explore them in the discussion that follows.

I believe that the U.S. does indeed face a serious competitiveness problem. It is not a new problem. It does not relate to the dollar movements of recent years. It is a broad-based problem. It is not a problem of mature industries or natural resource industries, or high tech industries. It is all of the above.

It is a structural problem. I believe very strongly that it is not a problem of macroeconomic policy or of broad movements in exchange rates and flows of capital. From my perspective on the firing line in industry after industry it does not look that way to me.

I believe that the international competitiveness problem has already placed severe strains on the standard of living of Americans. The data has been showing that for a decade or more. Real wages are declining, family incomes are declining, the standard of living is under attack.

I believe that U.S. public policy towards competitiveness has been lulled by a great deal of fog floating over the economic landscape. I believe that we have misread what the stock market is telling us. I think we have misread what low inflation is telling us. I think we have misread what job creation is telling us. These false signals have delayed responses.

We have also, I think, been lulled by the hope that the solution proposed by Mr. Bergsten—that is, strong adjustments in exchange rates—will be the solution. I, for one, believe that that is not a solution but only a step in reducing, ultimately, the standard of living of America. Unless the real fundamentals underlying competitiveness are in place—the ability of the Nation's firms to produce goods and services of the highest quality with the most innovative features and with the most advanced production methods—the value of the dollar will have to adjust indefinitely. That is not the solution that we as Americans want.

The President's Commission on Industrial Competitiveness, of which I was a member, identified 4 broad causes of the competitiveness problem. One was in the area of capital and exchange rates. The second was in the area of technological position. A third was in the area of human resources, and the fourth was in the area of international trade structure and international marketing of U.S. firms.

I would identify a fifth important area from my research over the 2 years that have intervened since this Commission did its work, and that is the health of the competitive system. I see the countries that are succeeding in international competition are the ones that have the most motivated firms, the most competitive firms, the most vigorous rivalry, and the most innovation. Some of the proposals on the table before this Committee and others are a threat to the health of our competitive system in the United States, which I will talk about later.

I believe that the U.S. competitiveness problem is not just a trade problem. I think it is very risky for this or any other Committee to view it that way. We will be very disappointed if we take action under the assumption that it is a trade problem. We will see that the solution is not going to come to pass.

Now, in briefly commenting on the legislative proposals before this Committee, I would like to briefly reflect on 6 basic areas. The first is the President's competitiveness initiative. The other five areas all relate to the more specific aspects of trade policy, trade law reform, and trade organization that are contained in the various bills before this Committee.

With regard to the President's competitiveness initiative, I welcome this initiative. It has been a long time coming. It has been an initiative that many of us have been begging the Administration to launch for years. It is a good start. It takes a broad cut at the problem. It addresses areas like human resources, intellectual property and technological innovation.

But the President's initiative is still only incremental. It is only, I think, a repackaging of some proposals that have been around for a long time. It is not a bold new program. It does not address all the important areas. I am particularly disappointed in the educational and human resources dimensions of the President's program. I believe that human resources is the single biggest leverage point for Government in the competitiveness area; education, training, primary and secondary education and higher education.

If we look at the President's budget, the Department of Education is being asked to absorb 30 percent of the total budget cuts in its budget. We are cutting back on the highest leverage area. And that, I think, is a very dangerous misalignment of our priorities.

Another aspect of the President's proposal that I find disturbing is the part relating to regulatory reform, particularly reform of the antitrust laws. I see little or no connection in my research on the frontline, and in working with companies, between the antitrust laws and competitiveness.

I do not see any need to relax the merger guidelines any more. I think we are already in an anything goes mode, in terms of mergers. We should not let the competitiveness problem blind us or confuse us about the importance of the health of our competitive system. That has been one of the key anchors of American strength in so many industries, because we have had a very vibrant and competitive system.

If we let these proposals start moving us in the direction of more agreements and more quotas and more restraints and more mergers instead of making competition more vigorous, we are going to be moving in the wrong direction.

With regard to the trade law reforms that are proposed in these various bills, I believe that the Administration's proposal is a good start. The only question is whether it is strong enough. Of course, there is much debate about whether it is strong enough.

With regard to trade law reform, my testimony goes into some detail on this. Here I would just articulate 3 important principles that, in my judgment, should help this Committee decide between good trade law reform and bad trade law reform.

The first principle is that any trade law that is based on bilateral trading-flows between any two nations is flawed. There is no sound economic reason why we should have a trade balance with any particular country. Any trade policy that tries to achieve this through either negotiation or through some kind of inevitable sanctions is only going to lead us down a path that is a cure worse than the disease.

If we start negotiating with countries to reduce the trade balance, the process is going to naturally lead us to more and more semiconductor agreements, machine tool agreements, auto agreements, and TV set agreements. Those agreements are bad for competition, they are bad for American consumers, and they actually are bad for American companies, although they often do not see this in the short term.

In the long run the only way we are going to restore trade balances is not through making deals but through getting industry more competitive. These kind of approaches are approaches in the wrong direction.

I feel the same way about sector-specific trade legislation. If we write into the law that the U.S. must have a specific position in telecommunications or in cars or in any other industry we are going to, again, trigger an inevitable process leading us to agreements, accords, voluntary restraint—that is, cartels. I do not think that is the right solution.

My third criteria in trade legislation relates to the definition of injury. I think we have to be very careful about definition of injury. There are some dangerous tendencies now to define injury as being losing profits or reducing production, not being damaged by unfair trading practice.

There is a tendency now for any industry that has not been doing well to say it has been hurt by international competition, without connecting that to some specific practice on the part of foreign nations that is unfair or violates the trade laws. If we start defining injury as just not making money, then we are going to open the floodgates of Government intervention and every industry will soon be in Washington. We do not want to tempt them. We want them to solve their own problems.

With regard to trade organization, I support the creation of a department that would merge the functions of the Special Trade Representative, the Department of Commerce, and relevant sections of the Department of Agriculture. I believe that both the formulation and the implementation of trade policy is muddled and confused a fraction of the way we are set up now. It is hard to argue against this. I thought Secretary Baker's arguments yesterday were a bit circular, and my view is that a new department with a broad mandate would be an effective one.

I believe that you cannot separate trade from investment, from domestic commerce, and from foreign alliances and joint ventures. International companies do not compete that way. When they think about how to compete they think about an overall strategy that involves some export, some foreign investment and some strategic alliances.

If we create a trade agency and also an "all-other" agency, we are going to get all tangled up again. So I support a streamlined

Cabinet department. That, I think, is not creating more bureaucracy, but probably less bureaucracy.

With regard to the reorganization of the Executive Office of the President, I believe the proposals before this Committee are fine but they are not going to make much of an impact. The important thing about the Executive Office of the President is how the President uses whatever organization he has in place.

This President already has an Economic Policy Council that is perfectly capable of integrating international economic policy if it wants to, if it has the right orientation. I think a Cabinet department with the right mandate, backed by a better, clearer set of laws and less duplication and less overlapping authority would be a far more effective way of actually ensuring that something really changes than tinkering with how the President runs his own shop. I think the President, ultimately, is going to have to determine that question.

I would also say in passing that I think Congress needs to get its own house in order. The same overlapping authority and responsibility exists in Congress as exists in the Executive branch. I see too little in the way of proposals in that regard on Capitol Hill.

Finally, with regard to trade data, I think some of the proposals are constructive proposals. However, I think they are too data oriented and not user oriented enough. The trade data bank proposals are likely to create a lot of useful data that sits somewhere gathering dust. Those proposals need to encompass a very clear connection between the data bank and American companies. Those proposals need to include field offices. Those proposals need to include foreign offices. Those proposals need mechanisms to ensure that U.S. firms get the counsel and the advice that they need in using the data collected.

That, Mr. Chairman, concludes my comments. I would be pleased to entertain questions along with the rest of the panel.

Chairman GLENN. Thank you very much. Those were excellent statements. We have had a couple of other members join us.

Senator Bingaman, do you have any comments that you want to make before we go to questioning?

Senator BINGAMAN. I really just want to thank all of the witnesses for being here. I apologize for arriving late. I had another meeting I had to attend, but I do have a series of questions when we get to that. I do think that these are very important hearings.

Chairman GLENN. Thank you. Senator Bingaman is our Ad Hoc Chairman for Competitiveness. He headed up a study group for the Democratic Caucus some time ago and is taking a lead in this area as our guru on the Committee in this particular area, if I may call you that.

Senator Sasser, do you have any comments?

Senator SASSER. Mr. Chairman, I do not have an opening statement, but I would make this comment, that again I want to commend you, Mr. Chairman, for calling these hearings on a very critical and important topic for us at this time in economic history of our country. And I want to join you in your remarks about Senator Bingaman's efforts in this whole regard. He has been emerging as a leader in the Senate on the question of trade and competitiveness and many of us are looking to him for leadership on this particular issue.

I am impressed with the quality of this panel that has been assembled here today. I regret that I was unable to be here at 9:30. We have a Banking Committee bill on the floor. We were meeting on that and that precluded me from being here.

Thank you, Mr. Chairman.

Chairman GLENN. Thank you, Senator Sasser.

Some have argued that greater cooperation and consensus among business, Government and labor is a very key element in making the Nation's economy more competitive.

The proposal for a permanent Council on Industrial Competitiveness in S. 374 is predicated on this argument. Do you agree with this? Some of you have spoken to various degrees to this. Fred?

Dr. BERGSTEN. I focused in my statement on the need to find a new mechanism to achieve some of the purposes emphasized by Pat Choate and others concerning coherently in our policies. I guess I have my doubts that a council of that type is the right way to do it. It is one way, but I think it has some specific flaws. I would rather see it done in an existing Government agency, or preferably in that expanded United States Trade Representative's office that I recommended.

Chairman GLENN. Well, you made that recommendation. I noted though that you did favor, I think, in your statement a council on international trade, economic and financial policy.

Dr. BERGSTEN. That is right.

Chairman GLENN. Would that not be the same thing, in effect?

Dr. BERGSTEN. Their intended purposes are quite different, though one could try to blend them. The council that I was endorsing, which is in S. 330, would have as its basic purpose trying to pursue integration of trade policy as we normally define it with international monetary issues like the exchange rate, and macroeconomic policy, to try to avoid a situation where, as I argued, faulty macroeconomic policy blew our competitiveness out of the water and priced us out of world markets. I think that is the basic function of that council, though one could conceivably expand it to the other function as well.

Chairman GLENN. I am concentrating on you for just a minute because I know that you have to go by eleven o'clock, but as I understand it, you would like to make a U.S. trade administration similar to other Government agencies that are administrations, but they would in turn report to the U.S. Trade Representative, whom you see as a czar of this, and take that function out of Commerce.

And I was wondering, when you were talking about that a little while ago during your testimony, what the difference would be between that and a department of trade. It would seem to me that you are setting up an administration that would virtually be a department of trade anyway. How would it differ?

Dr. BERGSTEN. Let me make one quick comment, and then Mr. Destler, who is the expert on that, will elaborate. I think there is a significant difference. If this trade administration that we have in mind was clearly an arm of, and reported to, a Presidential advisor in the White House it would give it status, really, above and beyond that of any independent Government department. That is what I regard as being critical to the working of the whole process.

I take the view—and it is based both on a reading of history and my own experience in trade policy over a number of years in Government—that any single department, whatever its mandate, is simply not going to be able to reconcile issues among other departments and take an effective leadership role. But let me ask Dr. Destler to elaborate, if I may.

Chairman GLENN. Go ahead, Doctor.

Dr. DESTLER. Let me, Mr. Chairman, elaborate very briefly. The proposal that I made in my book and that Fred made today is based on the belief that the people who argue for a department of trade are right about the problem but probably wrong about the solution. It does not make any sense to have two Cabinet-level officials in the Government, both of whose primary concern is international trade policy, even if they are both good, even if they are both working hard, even if for the present Mr. Yeutter and Mr. Baldrige are cooperating reasonably well.

It does not make sense as a structural thing. It does not make sense to have potentially competing bureaucracies.

Chairman GLENN. Does that same hold true if you would combine them?

Dr. DESTLER. I think the argument for combining them is very strong, and the simplest way to combine them would be to have a department of trade. The problem that I have with that as I have looked at Government organization and policy making in various areas—national security, other areas of economic policy—is that departments and Cabinet Secretaries are typically not all that strong. They tend to be very close to the specific constituencies they most affect, and they tend to be very distant from the President.

And the problem, therefore, is how can you avoid this danger and still get the greater integration that you need? And there is one other problem you are not going to be able to put all of the trade-related functions of the U.S. Government in this department.

Much of agriculture, for a combination of political and policy reasons, is going to stay out. Treasury is going to have some involvement, State will have some involvement. So it is going to be a problem of interdepartmental leadership. It is not simply managing a bureaucracy and a program. It is going to be cross-governmental leadership. The head of the trade organization will need the backing of the President. And if he is substantially separated from the President, then he will not get that.

Therefore, we have put together an alternative proposal which we think builds on the strengths of the USTR, eliminates this split, two-cabinet leader arrangement that you have right now on trade, and which therefore we think is a better arrangement than either the present situation or the proposed department.

Chairman GLENN. Okay, well let me ask then, Dr. Choate, you suggested a national competitiveness advisor, sort of like the NSC in the White House, reporting directly to the President as sort of a monitor, a broker, I believe, was one of your words in your statement. Would that, in effect, be the same thing that Dr. Bergsten is talking about, or would it have different responsibilities? Comment on each other's proposals here if you would. I want to get a little give and take going here too.

Dr. CHOATE. Sure. First, I think it would be very useful if this country could create a department of industry and trade. There are many functions that do need consolidation, and I think we as a country would achieve a series of efficiencies by having that.

But I would also note that in the late 1970's I worked in OMB for about a year on reorganization efforts. In the process of doing that, when we went back and took a look at the attempts to make consolidations, we found that there had been 29 major attempts since 1948 to create and consolidate the major economic policy functions outside the Executive Office of the President, and none had succeeded. Now, the 30th attempt may be the one that can do it.

What I am suggesting is that if we cannot get a department of trade, and even if we do get a department of trade, nonetheless there is a need inside the Executive Office of the President to have a device and mechanism by which a diversity of views can be reconciled. I agree very much with Dr. Bergsten that Cabinet Secretaries are very often unwilling to defer to other Cabinet Secretaries in the process of making decisions.

What really is needed, as much as in the national security field, is to have someone who can be a neutral broker who can reconcile the views, and have an independent staff to then bring them together. So, I would say, if we could get a department of industry and trade it would be beneficial. But that in itself does not obviate the necessity of having that neutral broker.

Chairman GLENN. Professors Cohen, Porter, do either one of you have comments on this?

Dr. COHEN. My comments will be very brief on this, because, again, the council on competitiveness idea is one that could help to focus attention and provide information. But I think some of the questions we have been dealing with here really relate to a much more basic question, as I am reading the conversation, and that is, should there be an effort by the Congress to force the hand of the Executive, or should there be an effort to leave the hand of the Executive untouched?

We sort of go back and forth on that basic question. The structuring of something in the White House to keep everyone's attention focused on this absolutely central problem is something we can ask to be created. But as Professor Porter was saying, it is also something that exists, and all they have to do is start paying a bit of attention to this.

So I am not so certain as to the need for enabling institutions within the inner core of the Executive Office, rather than of the importance of, perhaps, forcing attention. I always find it is easier when I am negotiating with someone to say it is not me, it is the bank, because the bank is sending me here to foreclose on your farm, and I like you very much and you have a very nice farm. And perhaps there should be more bank behind the Executive Office, to obligate and to enable the Executive to say, gee whiz, I am really nice but those people in the Congress have just forced my hand a bit.

In terms of administrative form and requirements, I think that when we talk about competitiveness, we are talking about a long term, sustained effort to create a cadre of people who really know about different industries at home and abroad, who stay on top of their subject, who stay with the job and do not, sometimes go work for people their training was not really intended to aid.

For that function—on top, expert knowledge, I like a large powerful body. A light-weight advisory council might be very nice in the short term to help focus attention, and perhaps these proposals have to be dovetailed according to a strategic notion of time, but I think behind many of these——

Chairman GLENN. Well, having said that you want a powerful body, do you favor a department of trade?

Dr. COHEN. It would not hurt. I would go for it. I do not know if we can get it. And I bow to Dr. Choate's real administrative experience. If such a department means just taking all of the existing pieces and relabelling them, I think we may end up with a mess of a department.

Chairman GLENN. And combine Commerce with it and make it a Department of Commerce, Trade, Industry, perhaps.

Dr. COHEN. I would love to build something starting with 20 good people, and then build up and around it, concrete functions, good people, staying power, and enough real power, that is, to have a small finger on something.

Chairman GLENN. That sounds suspiciously like the President's statement. He identifies a problem and puts good people on it and turns them loose, and that does not exactly work.

Dr. COHEN. No, no. I would not turn them loose at all. I would point them, and help them grow. What I am trying to say is, if one just creates a——

Chairman GLENN. Well, you know, that can be a recipe for disaster in some other areas, too.

Dr. COHEN. We have had some experience with turning them loose, I know. But what I am really addressing is Pat Choate's disheartening experience of combining different existing agencies and putting a little paint on the wall and trying to get a change in behavior.

Chairman GLENN. Thank you. Professor Porter, do you want to comment?

Dr. PORTER. Yes, sir.

Chairman GLENN. Very briefly, because my time is up.

Dr. PORTER. Okay. I think that what we see is that even if we have a department of trade we still need some integrating mechanism in the Executive Office of the President. So these are not mutually exclusive proposals.

The reason I believe in a department of industry and trade is I believe we need to create an advocate for competitiveness. We do not have one now. That function has been diffused. The areas that have strong advocate's today are State and Defense. Also, I think just sheer efficiency argues for a more streamlined, single department that combines trade functions. But that does not mean that we should not integrate the other considerations in setting economic policy at the Executive Office level.

Chairman GLENN. Very good. Just one comment and then I will turn to Senator Roth.

I have been concerned that we not set up something that is going to be a panacea. This problem runs through every element of our society. It is education, it is science, it is research. It is these areas which in the past have given us a preeminence over other nations.

Now we are facing international competition in those areas and we are not going to solve anything with new organizations unless our fundamental problems are solved first, so that we are out-researching other people and out educating them. Unfortunately, the trends are wrong in those areas.

Senator Roth?

Senator ROTH. Thank you, Mr. Chairman.

I would like to continue with your statement, Professor Porter, because I agree very strongly with you. It seems to me part of the problem that we have with every Administration is that trade is not made a number one national goal. They all claim it is. Every President since I have been here has made that statement, but in fact they are too busy with other things and you do not have an advocate for trade, for competitiveness. So I strongly agree with what you are saying.

I also think you are right on the button when you say—if I understood you correctly—that we need both a department that can deal with this problem in depth and that consolidates the responsibilities for developing policy, negotiating and implementing——

Chairman GLENN. Can I interrupt for just one minute, because we are on a vote and I just want to let everyone know what it is. There are two votes on the floor. They are going to be back to back.

First, Senate Congressional Resolution 21, which expresses a sense of the Congress that it is opposed to recently proposed economic community taxes on vegetables and vegetable and animal fats. Second, Senate Congressional Resolution 27 urges the U.S. Trade Representative and Department of Commerce to initiate immediate investigations into proposed Canadian agricultural subsidies and the effect they are having on Canadian/American trade. They are back to back votes. Maybe we want to go ahead and vote, then come back.

Senator ROTH. Thank you, Senator Glenn.

As I said, I think we need the department to attract people who will want to make a career to provide the in-depth analysis and background that is essential for sound policy, and it makes no sense to divide the negotiations, as far as I am concerned, from the implementation. The other side is that however you cut it—Jim Baker yesterday said—we are still going to need some kind of coordination. That is absolutely right.

No one disagrees with that, and in my own legislation that our Committee here reported out a couple of years ago we did provide for a group in the White House to coordinate, because, obviously, trade impacts monetary and budgetary policy, the State Department and everything else.

The main thing I think you have to be careful of is that you do not create a rival power, which is always the danger. But I think that can be done by keeping it small and restricting its role to coordination when direct presidential involvement is required. Would you agree with that?

Dr. **Porter**. Well, yes, in large part. I think that we are in complete agreement on the department itself, on having a strong cabinet department, on avoiding as much of the overlap as practical, and using the process to just streamline.

I think the Department of Commerce needs streamlining, it needs housecleaning. When we merge we can do a lot of other positive things in the process.

Senator **Roth**. We do not want to use the old Commerce for the new department.

Dr. **Porter**. Exactly.

Senator **Roth**. That would be the worst signal we could give.

Dr. **Porter**. We want to build the new department on the other side, the STR side probably. We still need an organization in the White House. I think what is controversial about that proposal is whether there needs to be another independent staff in the White House or whether we only really need a Cabinet level coordinating body like the Economic Policy Council.

Again, I am not an expert in Government organization, but it seems to me if we create a new staff in the White House we may be back to a two-headed monster again.

Senator **Roth**. Yes, I think there is some sense to that and I would like to work with your group on this.

Yes?

Dr. **Destler**. In principle, a staff in the White House and a Cabinet level coordinating body are not in competition. One could have the coordinating department leading and the small staff which worked with them, which presented the choices to the President, which made sure that the issues got his attention. The problem, of course, as all the witnesses have pointed out—is making that work out in practice.

We, in fact, tried that in our Government in the Nixon Administration when first Peter Peterson and then Peter Flannagan was the President's Assistant for International Economic Policy. And as one who investigated that as part of an expert staff at the beginning of the Carter Administration, I recall that what that had become was another point of advocacy headed by a very adroit and talented person who did not, in fact, have the consistent ear of the President in the sense that National Security Advisors have had.

So the problem has been, essentially, to make this policy area important enough to presidents so that they would deal on a regular basis and reinforce both their overall coordinating people and their trade people, and that is, of course, easier declared than accomplished.

Senator **Roth**. Yes, sir?

Dr. **Choate**. I think it is important for us—as we consider as a country, restructuring—to keep in mind that competitiveness consists of many things. Trade is part of that, but it is only a part. It comes back to the point that I think the Members of the Committee have made.

It deals with education, it deals with research and development, it deals with a variety of activities. If there is created in the White House a coordinating mechanism, I suggest that it be a national competitiveness advisor on competitiveness.

In other words, what you are doing by both the title and structure is recognizing that there are many things involved. What you then want is for that particular individual and that body to be able to address the complimentarities and the tradeoffs that are involved in education policy, trade policy, capital policy, macroeconomic policy, et cetera.

In other words, you want to be able to reconcile them all. Now, to the extent above and beyond that, that we can have a department of trade, or reforms made within the Department of Education or the Department of Labor, those are complimentary activities.

What I am saying is that we can have a much better focused set of policies on competitiveness, even without creating a new department of trade. A new department of trade would be an additional benefit. So they do not have to go hand in glove.

Senator ROTH. Well, I strongly agree. Of course, competitiveness means many things to many people. I think some use it for protectionism and for other purposes. But it seems to me that what we in Government have to do is create what I call an environment of growth. Actual competitiveness has to be done in the private sector to produce a better product at a better price. But we have got to create the environment in Government at every level, whether it is education, or research and development, or whatever it may be.

And talking about trade, I am just talking of the more limited scope. It seems to me that, in a sense, trade deals with the marketing of a competitive product and that we must put that up front and have the capability to make decisions fast. And we have not done that in the past because there has been too much bad feeling between the competing Secretaries and Departments.

Fred, as you know I am one of your great admirers, particularly when you agree with me. I wonder if you have any comments.

Dr. BERGSTEN. Well, I was ducking, Senator, because knowing of that view you often express and which I deeply appreciate, I do not agree with part of your ideas.

I stressed earlier the critical importance of the macroeconomic and exchange rate issues, and therefore the council that you mentioned I think is very important and could be a big help. I would prefer not to create a new department but rather to expand on the USTR with an independent trade administration reporting to it as a way to deal with the problem of bifurcation I think you correctly identify.

Senator ROTH. The observation I was going to make was that in our department of trade that we reported out from this Committee we did use the USTR as the basis for the new department and we made the secretary the USTR.

And I think there are some parts of Commerce we do want to utilize. But the fact is that Commerce is one of the most bureaucratic overgrown organizations in the world and what I really want is a mean lean department of trade, and also, Pentagon.

We have to vote so I have to go.

Chairman GLENN. There will be a temporary recess.

[Recess.]

Chairman GLENN. The hearing will be in order.

Senator Bingaman?

Senator BINGAMAN. Thank you, Mr. Chairman.

One of the proposals in the legislation before the committee, which some of you mention in your testimony, is a trade impact statement or a competitiveness impact statement. Does this idea have validity in your opinions, or is it too diffuse?

I have difficulty seeing how these statements would be specific enough to really make a major contribution. Or is the contribution perhaps just the fact that it focuses attention on the issue?

Dr. Choate, do you have some thoughts on that?

Dr. CHOATE. Well, first of all, I think that the importance of that kind of a statement is that it will wonderfully concentrate the mind inside Government on competitiveness. It will alter thinking, and that is really what we are speaking to. What we are really saying as a country is that we have got to put our trade and our economic competitiveness on a parity with our defense and foreign policy. Competitiveness must become a top priority.

When one moves into the mechanics of such an instrument we are talking about something that can be relatively simple and straight forward. It can deal with issues such as how will this affect the ability of an industry to deal with market share questions? How will it deal with the issues of capital investments or technology investment? What will it do in terms of job creation?

There are a number of rather straightforward generic questions that can be asked. The importance of such a statement is that it focuses attention on competitiveness in an anticipatory manner.

Senator BINGAMAN. Yes, Dr. Destler?

Dr. DESTLER. Pat Choate is right that the importance, of such a statement is that people, including people in the executive branch—senior people—would have to address the competitiveness effects of other policy actions.

The danger, I think, is reflected in what I understand happened to some degree with the arms control impact statement, that you get a process that becomes cumbersome. A lot of people who ought to have been working on arms control and on defense were, in fact, spending an enormous amount of time and energy drafting and redrafting and bargaining about the details of arms control impact statements because they had to go down to Capitol Hill and they were going to be read down there.

So I think, if one pushes the idea—which I think is essentially a good one—one would like to do it in a way that is relatively economical, apply the requirement to a limited number of major policy steps, so you do not have the best competitiveness people having to spend too much of their time arguing about the language of such statements. That can become cumbersome.

Senator BINGAMAN. On another item, what do any of you feel is the proper role of the Department of Defense in helping with our competitiveness problems? It strikes me that, in our leading technology areas, the only way we are politically able to do anything is to declare it a national security problem and give the job to the Department of Defense.

In strategic computing, DARPA has tried to maintain a leadership position. In semiconductors, the Defense Science Board is saying that the Department of Defense should take the lead. We had Secretary Baldrige before the Committee yesterday. I asked him about superconductivity and who the proper official was in the Government to take the initiative to try to ensure that we maintain a lead in superconductivity. He said maybe DOD is the right group.

I am not saying that is the way things ought to be. I am saying that the reality of our politics and our governmental structure may be such that if you want to take concrete action in some of these leading-edge technologies, the only option is to try to do it through the Department of Defense.

Dr. Porter, do you have some thoughts on that? Any of the rest of you?

Dr. PORTER. Well, I will start. I think that the history of the United States, at least this century, has been that indeed the Department of Defense has been playing a leading role in many of these technologies. So that mechanism is a tried and true one and it has had substantial impact. It is politically possible and those are its merits.

The problem I have with viewing the Department of Defense as a key actor in the technology area is that as I have looked at industries carefully and at the technological development of those industries, I see many cases in which the needs of defense and the needs of civilian industry are not the same. And in fact, you can see in industries like machine tools, and many others, where the focus of U.S. firms on the defense market essentially stalled or froze them out of competing in product segments and product varieties that were going to be crucial in the civilian market.

Take machine tools, for example. If you walk into a Korean factory you will not see one single U.S. machine tool, unless you go into a Korean factory that is making aircraft parts. Then you will start seeing U.S. machine tools, because our U.S. machine tool industry was focused on serving the defense need. They did not concentrate on general purpose machine tools for medium-sized companies, which are the bulk of the market.

So I think the danger of using Defense as our engine of R&D is that in many industries defense technology and civilian technology is not a close match. And my view is that that would be a second-best solution. The first-best solution would be either a new department of trade and industry with some R&D functions attached to it, or a department of science. If we debated and thought such departments were a good idea, that would be the first-best solution. If we cannot achieve that solution, then Defense is better than nothing. But I think it carries some risks.

Senator BINGAMAN. Do any of the rest of you want to comment on that? Dr. Cohen?

Dr. COHEN. I am in complete agreement with Professor Porter on that. The machine tool case is a classic. The problem has been that the Defense Department is too honest. It shapes the industry to respond to DOD's needs, not commerical competitiveness. Its needs are special defense needs. Let DOD structure an industry, and you get an industry that very often reflects DOD's very, very special needs and forum. It would be better to have someone who could just go in and do it directly, the way the Japanese do it.

However, in this country we support an enormous defense burden. Our defense posture, is based, fundamentally, on the assumption of staying ahead technologically, permanently ahead technologically. If we permit erosion in major industries—such as the industrial chain, that stretches from telecommunications, though computers, to semiconductors—the erosion that we are already experiencing, the burden of defense on the civilian economy, will become more and more onerous.

The defense posture, as we have defined it, needs a very strong civilian economy, otherwise it is going to bankrupt us. We will end up with a kind of Soviet-type economy. That would be a very ironic result. So I think that in the short run the importance of the Defense Department taking vigorous action in this area is critical. And there is only a short run if the whole telecom chain goes the way consumer electronics went. And that unraveling can happen very fast. The window of opportunity is too short to talk about creating new big governmental institutions, and new basic policies. We have to act now, and that probably means, act through DOD.

The question then becomes how to address Professor Porter's thought, about how the Defense Department impacts industries. Can DOD act in such a way as to promote a commercially viable industry. Or will it be the helping hand strikes again? We have had experiences of both kind. Our group, BRIE has looked at some of this very carefully.

Senator **BINGAMAN**. Have you looked at the Defense Science Board's proposal with regard to semitech?

Dr. **COHEN**. Yes.

Senator **BINGAMAN**. Is that a case of the helping hand strikes again, or is that going to work?

Dr. **COHEN**. It can work. It will depend upon how it is done. The focus is on the right point: innovation in production, not just product. We have spent lots of effort and money in this country in R&D. Almost none of it has gone into production technology. It has generally been the product. Where we are getting beaten in the international arena is on the shop floor. We have lost mastery and control of production. We are not leading-edge producers in many areas.

There are some miserable stories that our friends the semiconductor producers tell. The stories start great. They are going to bring some production back and automate it. And when they brought it back they discovered they did not have engineers who could do it and they had to import engineers from their Pacific Rim operations to run the plant, because we have lost the skill base.

This is what I meant by saying that the costs of the trade barriers are not simply quantifiable. Once you lose know-how, it is very hard to go back. These are not commodities where you just plant a little more the next year.

Senator **BINGAMAN**. Dr. Frank Press said before our Subcommittee on Armed Services and he said that the rate at which technology and new processes move into the defense sector is about half as fast as the rate that those processes and technologies go into the non-defense manufacturing sector.

Dr. **COHEN**. I think he is optimistic about defense. I think it is less than half.

Senator **Bingaman**. Well, if that is true, how do we look to defense to solve the problem of our manufacturing efficiency if the worst performer in our economy is the defense sector.

Dr. **Cohen**. We have outlined the problem. DOD are the guys with the bucks, but when they get involved they often gum everything up. So the trick is to structure semitech so that the Defense Department will provide orders to purchase semiconductor plants or to have its contractors purchase semiconductor plants. Semitech must aim at the American equipment producers, which is the weak end of that whole chain. The semiconductor equipment producers are pretty much on the ropes. If they go, I do not see how Motorola or Texas Instruments will compete with Hitachi using Hitachi equipment. They will be permanently behind.

So, if you can get something that aims at a fairly substantial, pilot-research factory, then the way to organize it might be not to have Defense Department say I want a factory that will produce a chip that will work both underwater and in outer space, but to have DOD say, when you get the factories up, we will buy three factories, or have our contractors do such, and keep Defense away from specifying how things are made and what comes out. They need advanced, flexible production capability diffused throughout the domestic industry.

It would also probably do the Defense Department an awful lot of good to shop at the corner store. Before they design, they have slow procurement process, speciality items. But that is something you know much more about than I do.

Senator **Bingaman**. Dr. Choate, did you have some thoughts on that?

Dr. **Choate**. I do. I think the first thing for us to look at and recognize is that many of our competitors are targeting the business cycle. And in the process of targeting the business cycle, they are building excess capacity and maintaining a level of capital investment and research and development even as we are moving down towards the trough of the cycle.

American firms at that period of time are generally forced, because of financial pressures, to cut back on their capital investment and lay off their workers. When they come out of the cycle they are then playing catchup because our foreign competitors, by having deep pockets in the longer term perspective, are able to gain market share. And time after time running through that cycle is what has happened to the semiconductor industry.

Now, it seems to me that a number of industries find themselves in that position. So one of the questions we come to is what should be the role of Government in stabilizing that investment and that acquisition of know-how over time.

There are several things, it seems to me, that can be done. We should start off by taking a look at what is the role of Government in that process. One of the roles of Government is to reduce some of those pressures for the short term, some of those short term pressures. That can be done.

A second set of activities appropriate for Government to deal with is our national lab system, which is really a pretty darn good system when you take a look at it. Here is a way for us to, in effect, underwrite some of the costs in the pre-competition phase of devising some generic technologies.

Many of our competitors in Japan, for example, do that through MITI, through works in ceramics and other activities. You will have a sharing, you will have an underwriting of the pre-competition phase in the development of those technologies. Then you come to the next phase.

There are certain industries that are linchpin industries, and I think semiconductors is one of those, and ceramics and other materials may be another series of those industries. Automation, robotics, again, may be yet another.

These are important not only to the general economy, but also to our defense industrial base. And I think that there is ample precedence, from the second world war on, for the United States Government to make substantial investments in some of those key or linchpin sectors of the economy that deal with the defense industrial base, sectors in which the private sector is unlikely to invest.

So to me, there is a very important role for the Department of Defense, but that role is part of a larger Government role through the national labs and a series of other activities that, in effect, support technology development at certain phases of the process.

Then you go to the next phase, the question of how do we then commercialize the technology? But it is a very linked thing, and a very properly linked thing, I believe.

Senator **Bingaman**. The Defense Department has identified what they consider the 20 key technology fields, the key areas that they believe we need to maintain a leadership position for national security purposes. They have published this list. There is nothing classified about it. They show that in 9 of the 20 we are ahead but losing our lead.

We had Frank Press, Erich Block, Bobby Iman and the President's Science Advisor, Dr. Graham testify before the Defense Industries Subcommittee.

I asked if we have a similar list of 20 key technologies for the country as far as our economic future is concerned, and if it is appropriate for us to have. I think without exception we were advised it is not appropriate.

The President's Science Advisor felt this was not a proper thing. He said each agency maybe should have its own list of technologies they think are important, but it would be counterproductive for us as a Nation to identify some list of areas that we considered high priority for purposes of Government support, and for purposes of pursuing a consistent set of priorities.

However, everyone who has testified so far on Semitech says semiconductors is a linchpin industry. We have got to have leadership in semiconductors. If we can do that with semiconductors, why can we not do it with a more comprehensive list? Dr. Destler?

Dr. **Destler**. Just a brief comment. It seems to me that this gets into the question of whether you can target the future if you are actually on the leading edge. There are different arguments and views as to how much say Japanese success has resulted from industrial targeting. But one thing that had to look forward to, at least until recently, was that they could look at the U.S. economy since we were the leader. They could look at a lot of our industries, they could say, we are going to try to compete in semiconductors, or before that, in automobiles.

If you are at the leading edge, as we still are in many areas, as the Japanese now are, it becomes harder to calculate what will be the most important industries or technologies for one's economy in the future. I suspect that is one of the reasons why the board you referred to is reluctant about choosing.

It does seem to me one can take broad areas which we know are going to be important, even if we do not know exactly the direction they are going to develop, and we can support research and development in those broad technical and scientific areas, but maybe not get too specific.

Dr. CHOATE. I disagree with the Science Advisor in this sense, that I think it is very much to our benefit to identify a series of generic technologies where we make a commitment as a Nation to be at the leading edge, both in the creation and the deployment of those technologies.

When one takes a look, for example, at the Japanese and MITI, you find that they will regularly identify a series of generic technologies that becomes a major priority in their research efforts. Equally important, they are now putting into place a series of what they call "technopolis" centers around their country—I think at last count 19 of those centers—where they focus on very specific technologies and have business, government, university cooperation. They are now moving to the point where they are encouraging our best universities like MIT to come over and show them how to set up a cutting edge university system.

So I would say two or three things. At a minimum, whatever technologies the Japanese are focusing on, we should focus on, at an absolute minimum. If it is important to them, it should be important to us, given their history. That is one thing.

Second, we should identify additional technologies. And third, we know enough to identify a sufficient number of those technologies that are important to begin a program and a concentrated effort on those specific technologies. Then as other important technologies emerge, we can add them over time.

To a large degree, our ability to stay on the technological edge is going to determine our ability to be a premier competitor. And so I think it is very much to our national interest to establish such an effort.

Senator BINGAMAN. Yes, Dr. Cohen.

Dr. COHEN. I completely agree with Dr. Choate. I just want to underline one sentence of this; the development and deployment of those technologies. They are equally important.

Senator BINGAMAN. If this is important as a national matter to set priorities in generic technologies in which we need to maintain a leadership position, whose job is it in the present governmental structure to do that? Or which of the proposals that we have before us in the way of reorganization would solve that problem?

Does anybody have the authority to set priorities and ensure that those priorities are adhered to by the various agencies that fund research, or should anybody?

Dr. CHOATE. Well, at present I believe that there would be authorities, but it is a confused set of authorities. It could essentially be done. The proposals being considered by this Committee to establish a council, an advisor to the President, and a mechanism of the agencies itself is the right sort of course, because it would permit the Executive branch and the Congress, irrespective of organizational structure, to establish a set of priorities.

They could then develop budget policies that reflect that set of priorities and be able to integrate those activities at the top. Back to the point, I think it's important to keep in mind a distinction between the integration function in the Executive Office of the President and a council to assist in that, versus a reorganization of Government itself.

As a country, we can achieve as a country most of what we wish to have done without a major reorganization. The proposals on the table for creating this council, creating an advisor, and creating impact statements can set the basis for shaping policy. Once policy is shaped, it becomes a matter between the Congress and the President to set budget limits.

Senator BINGAMAN. My time is up, Mr. Chairman.

Chairman GLENN. Well, you are on a good line here though. We have looked at this a little bit now and looked at it earlier and I think the time has come now to move on it. I think we can sit here and discuss organizational aspects all day.

Unless we are going to out-research and out-educate other nations around this world we are not going to solve our problems. Whatever our psyche was when this country first started, we were an exploring, questing, curious people, and it went not only into geographic exploration, it went into laboratories and science. We wanted to know why we could not. And we set about to do research and out of that came all of our whole society here.

We out-researched other people. We put a higher percent of our GNP, I think your economist's records will show, back into research than other nations around this world. And we cannot ignore that in this new era that we are now in. No amount of organizing is going to paper over those differences, as you point out, Dr. Choate.

It just hurts when you see this Administration proposing a 25 percent reduction in education funding and the Federal role in that is higher education, but we are being out-doctored by the foreigners coming in and getting their doctorals and post-doctorals and going back home again.

I know I am preaching to the choir with this group, but I ran into a figure a short time ago, and I will just toss this out here because I do not now whether it is accurate—I asked my staff in my office to check this out and we have not gotten the answer yet—that only 36 percent of the high schools have a physics department. Is that right, do you think? I cannot believe that.

I read that the other day and I wanted to check that. If that is correct, that is one of the most frightening figures I have heard in years. Only 36 percent have physics. My God, how are we going to compete with anybody around this world when they are all heading in the other direction, if that is what we are doing.

The President keeps saying if it is worth researching, private industry, basically, will do it. And we have a few companies that rise to that, a few of them like Bell Labs and 3M and Monsanto and a few others——

Dr. CHOATE. And TRW.

Chairman GLENN [continuing]. TRW—that do the long term research of the 8 to 10 to 15 year, but most CEOs are concentrating on a 3- to 5-year bottom line during their tenure. They do not have the same length of tenure as companies in most other countries, so it is difficult for them to set the longer-term goals.

And, of course, we cut back somewhat on the tax incentives because we were so concerned about all of the money that was being foregone to Federal revenue in that area. But I think maybe the time has come that we ought to put together, and I am going to look into it and maybe propose—in fact I think I definitely will—a civilian counterpart to DARPA.

We have talked about that in times past, whether we should have a civilian DARPA, or CARPA, or whatever you want to call it, but something where we, as a government, put our basic research money. Much of our advancement in this country has come out of the defense R&D that goes to DARPA or other agencies, which later produce a civilian spinoff, but it seems to me some very basic fundamental areas that are not necessarily just defense are things we should be looking into.

And without that kind of effort and upgrading of our education system in this country, all the rest of this is going to be like rearranging the deck chairs on the *Titanic*. That is more of a statement than a question, I guess.

But just one other one to toss in here on education. I have been in Japan and gone to some of the schools there. The kids there are going to school 215 days a year. In Europe it averages about 205 and in this country just 185 days a year. I wish I could say that I think our kids are working hard enough to make up that difference.

If anything, it is the other way around. And the 30 day gap, comparatively, is about 40 or 45 compared to what our kids are doing. Now, that does not bode well for the long-term future. But I think maybe we have to correct the basics of research and of education. That, to me, is far more important than whether you have a department of trade or a coordinating council, much as I may want that to happen.

Along this same line, let me ask Dr. Porter the following question. You were a member of the Young Commission. The Commission recommended the creation of a department of science and technology, something I have have had an interest in off and on for years.

Did you support those recommendations, and do you think that the department would provide a focal point for helping us in our industrial competitiveness once it got on-stream and got going?

Did you support it, number one?

Dr. PORTER. I supported it because it was the only viable alternative on the table to start what I thought was a crucial process going, which was to start thinking about what were the most important technologies that were generically important, to think about how to influence the funding in NSF and other agencies towards those areas, lobby other agencies like the Department of

Education to make sure that the teachers that were being trained under Federal programs were teachers that taught things that were relevant to these issues.

I think we felt that we needed an institutional mechanism to champion this whole agenda and to help set priorities. And a department of science and technology was the best, although somewhat ill shaped and ill conceived and ill understood entity that we could come up with. So my feeling is until I see a better institutional entity I would support that concept as a way of moving forward.

Chairman GLENN. Do you have anything better in mind?

Dr. PORTER. To me, letting science and technology float on its own would be less desirable than connecting a science and technology function to a department of trade or whatever we want to call it, which would connect it to industrial interests. We have a science and technology function in the Defense Department that is connected to defense needs through various institutional mechanisms.

I would prefer to see an institutional mechanism connected more to the commercial interests. So I think if I could do anything, I would like to see this new department with a strong R&D function that would roll in NSF and some of the other key agencies that are the implementing agencies.

Chairman GLENN. What do the rest of you think about that? Do you think we need a department of science and technology? That is the basic question. Would that solve any of our problems, Dr. Destler?

Dr. DESTLER. I do not know that it would do any harm. I am not sure how much good it would do to create a department of science and technology.

Chairman GLENN. We do not want to set it up unless it is going to do some good. I do not want to set it up just because it is not going to hurt.

Dr. DESTLER. I think I agree with the notion just expressed that if one is concerned about the productivity of our manufacturing enterprises, of improving production technology as well as product technology, one then would like to have an increased linkage between those in our Government who are concerned with R&D and those who are concerned with these productivity problems. That connection would not necessarily be optimized by creating a separate, free-standing department of science and technology.

Chairman GLENN. Dr. Choate?

Dr. CHOATE. I would share this observation. As I indicated earlier, in the late 1970's I worked for a year in the Office of Management and Budget in the reorganization projects. By and large looking back on that experience, I would say it was probably in my professional career the most unpleasant and unproductive period of my life. [Laughter.]

The difficulty in reorganization efforts such as of creating a department of science and technology—or economic and community affairs, as we were working on then—is first, reconciling all of the other agencies that do not want to go into a department.

The second major issue, and I think it would probably be more difficult today, is the necessity of a counterpart reconciliation of committees and subcommittees and jurisdictions back into Congress. So there is really a two-part reorganization involved in such an activity.

On the other hand, it seems to me that much of what one wishes to achieve can be done by process rather than structural reform. Specifically this means, placing in the Executive Office of the President policy devices that can take the various parts of the whole and then focus them.

And so it is increasingly a question not so much of structure but of process at the very top level and creating the ways and means to have vision, to have foresight. That is why I was very attracted to these calls for a database and an information and analysis capacity. If you have good information, can analyze it carefully and thoughtfully and get a balanced set of perspectives, as I believe you call for in the council that is being proposed here, then if you have a means of reconciling these perspectives at the very top level, you have the potential to devise vision. If you have vision and you have will, I think there is enough authority to be able to achieve what we wish.

Chairman GLENN. Well, okay, let me take that on just a little bit, because I will turn my hat around and while I am for almost everything you have said today, I do not know that what you said is the answer to the problem, because what you are doing is saying that if you have somebody in the top spot you will have a good research program. If you have somebody in the top spot that would not know research if it came up and bit him on the behind, you do not have a good research program.

Dr. CHOATE. Absolutely.

Chairman GLENN. When this Administration came in the first thing it did was to propose cuts in basic R&D that in the aggregate were about 29 percent of our basic research money.

I cannot think of anything more shortsighted, and it is now in the process of cutting education funding, trying to cut it even more; two of the most shortsighted things I think we could do.

Now, Congress did not let it cut all of that 29 percent out, fortunately. But some big cuts were made. Now, they trumpet that a 3 percent rise or a 5 percent rise was made. We are just about to get back up to where we were some years ago.

This has been the choice of this Administration. I think if you do have some organizational direction, let's say a department of science and technology, at least you set up a group which then has responsibility, whoever the President is, and they can be the advocate for science and technology. You may have a President that is not oriented in that direction, but research funding is not going to get cut off because there is nobody to argue for that constituency.

And the constituency itself is some problem. Some years ago I had a couple of hearings we conducted in this area of whether we should have a department of science and technology. Do you know that I got a lot of the opposition from the science community? And I could not believe that, because I thought we would have automatic support, and that everybody would be up here jumping up and down and saying what a good idea it was and lobbying everyone in sight, and that we would run this thing through and I thought it was going to be a great leap forward.

Well, instead of that, when we talked to them privately, it came down to the fact that people that are the existing experts in this field, the people that are in the existing groups now, have their own little pipelines. They know where their own little pockets of money are and where to get them, and we have got X hundred thousand for this and Y for that and something else.

And so they have all their pipelines in and for heaven's sake do not disturb them. It is all right to talk in the abstract about something, but when you get down to what would be folded into it, boy, they get very jumpy. And so they did not think we needed something like a new department. They would not say that publicly, but talk to them privately, it was going to disturb their own little fiefdom, and that was the basic problem.

So we run up against that in the scientific community itself. But we may have to run roughshod over some of those people that I think lack vision sometimes in spite of their awareness in the scientific area.

Let me get back, before the time gets away from us completely, to the here and now. You are all practitioners in the international research area and have had experience using data, using information. I would like to ask all of you about the problems you have encountered with the data in this field, how accurate it is, and if you think that a proposal for establishing a national trade data bank, which is proposed in S. 489, is a good idea?

You may be aware that the Government is considering privatizing the NTIS, National Technical Information Service. I would like your reaction to that, too.

But first, have you encountered problems and should we establish a national trade data bank? Who wants to lead off? Dr. Cohen, go ahead.

Dr. Cohen. Yes, I have experienced problems. The simplest one occured in writing the book we have just finished called "Manufacturing Matters." It makes a very simple argument that there is no such thing as a post-industrial economy, that the wealth and power of the Nation depends overwhelmingly on mastery and control of production.

The key to the argument is not the preservation, through protectionism, of very traditional blue collar jobs, but the linkages between manufacturing and so-called service employment. That is, if you lose manufacturing, you will not offset it with a growth of high-wage services but they will go down together.

In order to do this I needed to find certain kinds of data on concrete linkages; the crop duster and the farmer. There is a linkage between service and agriculture. You cannot find it in the way we organize our data. This is a fundamental intellectual problem. There are many other problems. They affect major policy questions.

The data (A) say that manufacturing as a percent of GNP is not falling; (B) that employment in manufacturing has fallen and; (C) that average wages in manufacturing have fallen. AB&C do not add up. There is something very strange going on. Also we need better value-added numbers on foreign trade. There is a whole lot to be done in that area and in terms of getting it out to people.

So I would very strongly support an effort to improve our competitiveness data including an effect to get and diffuse data about what is going on in other countries.

Chairman GLENN. Do you think we would accomplish anything by privatizing the National Technical Information Service?

Dr. COHEN. Do I think so? No. That is a personal opinion. But I wanted to add one thing to our discussion about data. We were talking a few minutes ago about one very good way of getting data. We do not access, for instance, Japanese information very well. They have vast amounts of very good information in scientific, technological and trade areas. Part of the problem is, of course, that it is in Japanese, and very few American companies can translate it and access it.

Another problem is some of the best JETRO stuff does not get distributed quite the way some of the American information does. It would be very useful if we could have some Americans, and some Europeans as well in the JETRO main operation, permanent and bilingual people, and then have one of the American Government institutions, in collaboration, perhaps, with the Europeans, translate and diffuse this huge amount of material. This effort might help to offset some of the impacts of our shrinking research budget.

Chairman GLENN. How about a level playing field with regard to data? We are always talking about a level playing field. Do we need a level playing field where other countries would make their information available to us before we let them subscribe to all of our available data?

Dr. COHEN. The basic idea is the right one.

Chairman GLENN. Is their information as available as ours if we just translated it, or do they keep it locked up a little bit more than we do?

Dr. COHEN. They do.

Dr. CHOATE. They do.

Chairman GLENN. Pat?

Dr. CHOATE. I would say two or three things on your series of questions. One, I think in S. 489 there is an excellent list on pages 7-10 of what would be done. I think that is right on the money and I think it is also particularly on the money because it goes beyond the collection of information and also gets into the analysis of the data and says, what does it mean, what are the policy implications. So I think that is a very important consideration.

The second point that I think is important is that we are probably to a point where we require a national technology policy and we need a national technology reciprocity policy. As Professor Cohen is suggesting, it should deal with things such as how do we get access to the technological data and information of other nations. I think that probably will require a substantial expansion of the translation capacity of NTIS, particularly as it pertains to the Japanese.

We did this in the 1950's in physics, simply because we did not have enough people to translate. We need to do the same thing, I think, with the Japanese in their scientific and technical data. There are over 7,000 scientific and technical journals in Japan a year that are not translated, simply because we do not have the capacity. Private firms do not have the money or the resources to do it. This should be a high priority with the NTIS, because much of what is happening is really cutting edge stuff. That is one thing.

The second thing we need to do is work out a policy, particularly with the Japanese, on access to our universities and to our research facilities on a reciprocal basis where our firms can participate in their industrial consortiums. Much of their research is done in industrial consortiums that are closed. Much or our research in this country is done in our great research universities such as CalTech and MIT.

We have very imbalanced circumstances today. We really need to take a tough, hard look at that and devise a policy of reciprocity.

Chairman GLENN. I think that is an excellent suggestion. I am not quite sure how we would put it into effect, because we all know it would be impossible to close our doors in those areas, just by the nature of our society and the freedom of information we have in the country. So I do not know what the stick is we would use to enter into the Japanese consortia, but maybe there is some way we could do.

Dr. COHEN. A different coin, as Kissinger used to say, linkage.

Chairman GLENN. Well, that is what it would have to be. It could not be just tit for tat. It is going to have be tat for tiddlywinks for something over here.

Dr. CHOATE. But we could slow access. In much of this research, time becomes an important factor. You can slow access. And I think that we have many other things that we could negotiate.

One of the things that we were talking about during at the break, for example, is that we should demand full access to all of the information that the Japanese have collected through their Robotics Association. They have collected the best set of information in the world on robotics. They have gone to Switzerland, to Sweden, to the United States, to France, to Germany, and they have translated it into Japanese.

We ought to be seeking those kinds of data bases. As to the question of selling NTIS, NTIS operates at a profit today. I think the problem that we face with NTIS is that it provides good information, but it could do so much more than it is doing now.

Perhaps an interim solution would be to keep it as a Government owned enterprise transformed into some kind of an institute, move it outside of the Department of Commerce, and then perhaps effect some form of a public/private management of that system. It seems to me that there is a variety of options besides selling, but other than what we now have. NTIS is really a valuable national resource that is not being fully utilized.

Chairman GLENN. And I thought the idea to sell it was particularly bad. It is the one operation in the Department of Commerce that actually makes money. It is a profitable organization and here we are going to sell the thing off, of all things. I could not believe it.

Dr. Porter?

Dr. PORTER. Yes, I think selling it off violates the most fundamental principle of why we created it in the first place, which is that information is a public good. No firm will invest enough to create enough information itself.

NTIS should not be profitable. It should be spending all of its income to create yet more information to make the decisions of U.S. firms yet better. Perhaps making it an independent institute would make sense, but, my God, do not sell it, because that is like selling off a crucial bridge and letting the private sector maximize profits charging high taxes to cross it.

I would just add a bit of a note of caution on the Japanese situation vis-a-vis information. My experience has been that there is mountains of information available in Japan. It is readily available. Japanese companies will give it to you. Trade associations will give it to you. We in the United States are so far from tapping what we can readily get that I think that we should do that first and not start too elaborate a program to penetrate the secrets of Japan. I have not found the secrets to be as secret as they are written in hieroglyphics as opposed to arabic letters.

Chairman GLENN. There are massive amounts of information available. I know our former colleague here and good personal friend, Mike Mansfield, Ambassador to Japan. I have talked to him about this and the flow of information. The last time I was in Japan, in fact, we talked to some of the people in the Embassy, and they sort of try and prioritize what they are looking at, just for lack of people.

They could use a thousand translators, literally, if they had them, just to translate information and make it available. What they try and do is prioritize what they think the highest quality information is and concentrate on that. But they are woefully inadequately staffed to carry that beyond just a superficial look at things across the board in Japan.

Dr. COHEN. Also, at a different level, I know at Berkeley where the semiconductor labs are among the best in the world there are students from Japan and a host of other countries who are active graduate students. The information is immediately transferred.

Chairman GLENN. Do you have any information on how many American students are in a university in Japan, though?

Dr. PORTER. Let me say, Senator, that they are welcome in Japan. They would love to have them, but nobody sends anybody. Nobody wants to go. That is the problem.

Chairman GLENN. Nobody can read Japanese. That is the problem.

Dr. PORTER. That is right. So my point is that we should not ascribe bad motives to the Japanese in this area. It is not bad motives. It is institutions, it is history, it is language.

Dr. COHEN. But part of it is that comparable work is not really done in the Japanese universities. It is done in generic research consortia of companies. It is that information, not the import/export statistics and how many tons of cotton go into Japan that is critical. Trade statistics are available, and it is not their fault they are not written in English or even better, in French. But it is the other kind of information, from the research labs that is at the heart of the R&D system.

And therefore I am afraid we are going to have to bully our way into some of that. It is not going to be given away. And if we can bully our way into some of that, for ourselves, or better yet, for the whole world, it can be an example of multilateral trade, not just

U.S./Japan. The Europeans have a very real stake in that too. And maybe if access were multilateral it would be politically better for all concerned.

Chairman GLENN. Gentlemen, we are going to have to end pretty soon here and I appreciate your patience this morning here very, very much. This is excellent. I wish we had the whole Senate sitting here listening to this session this morning because I think we have been into some areas of great importance.

We are involved particularly with reorganizational aspects on the Committee. I think some of you are more or less for a trade department or a reorganization of one kind or another here, and they vary a little bit.

As I said before, I think we have some basics to be concentrated upon that are perhaps more important than any organizational—at least long-term wise—more important than any organizational changes that we make.

I would like to ask if any of you have one last wrap-up statement you want to make here, words of advice for the future. If you are advising the Congress to do two things, what would they be, Dr. Destler?

Dr. DESTLER. Let me just say I think there is a consensus here that there are at least three basically separable problems. They are related but their organization and policy focuses are different. One is the macroeconomic problem. The second is what you do about trade and trade bargaining. The third is what we call competitiveness, productivity, the future of American industry, R&D. The single recommendation I would make is: think about different—not unrelated—but different organizational, different policy solutions to these different problems, because I think they do lend themselves to different responses.

A trade department—or my preference, a strengthened USTR—would deal basically with the second of these three. It would have some useful spinoff, probably, in making the macroeconomic policy makers listen more to trade effects. It would probably have some marginal effect in getting foreign markets open and therefore helping our productivity but basically these are three separate categories of issues that have different solutions.

Chairman GLENN. Thank you. Dr. Choate?

Dr. CHOATE. The premise for my recommendations would go essentially as follows: We are in a very different economic time; we have most of the tools that we require to deal with the changes we face. What we really lack are the ways and means to focus those tools and bring coherence to their use.

Two steps, I believe, could make a big difference and enable us to better meet our competitive challenge here and abroad. The first would be to establish a national competitiveness advisor and a related council, similar to what has been done with the National Security Advisor and the National Security Council. The national competitive and industrial council that is proposed in this legislation, would create the ways and means to involve some of the best thinkers in this country.

The second thing that I would suggest, and would hope that the Congress could do, is to pass the legislation that is before this Committee to create competitiveness impact statements on all major pieces of legislation.

Chairman GLENN. Good. Professor Cohen.

Dr. COHEN. Let me be a bit melodramatic. I would say that the Congress has to realize that we have a political crisis now. It may not feel like one, but it is there. And we have to make some very hard decisions about how much and what kind of a political crisis we want to share with some of our most successful trading partners.

And unless our Executive can be brought to understand that it is really a question of political reorganization on both sides of the trade coin, we are going to be in very, very deep trouble very, very quickly. And we do not have more than too short a period of time to act.

Chairman GLENN. Thank you. Professor Porter?

Dr. PORTER. If I had to do one thing, I would dig in my heels on educational spending. That is, to me, the highest leverage point for Government in dealing with this problem. And so that would be my number one card.

The second major recommendation would be to not let the competitiveness issue undermine the health of the competitive system in this country by starting us down the path of protection, special agreements, or bilateral or sectoral negotiations that will have the effect of undermining competition. I think if we can improve our human resources and preserve the competitive system, over time America has the resource and the ultimate strengths to succeed.

Chairman GLENN. I thank you all very much. This has been intensely interesting this morning. We may have other members that wish to submit questions to you. If you would respond in writing we would appreciate it. It will be included in the record, and I think this makes an excellent hearing record this morning for our consideration.

I want to personally thank each one of you for being here. It has been very, very good. As I said, I wish we had every single Member of the Senate sitting here listening this morning. Unfortunately we have too many things going on, as always. It has been very, very good.

Thank you, Gentlemen.

The Committee is now recessed.

[Whereupon, at 11:58 a.m., the Committee recessed to reconvene at the call of the Chair.]

GOVERNMENT'S ROLE IN ECONOMIC COMPETITIVENESS

TUESDAY, MARCH 31, 1987

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 9:37 a.m., in Room 342, Dirksen Senate Office Building, Hon. John Glenn, Chairman of the Committee, presiding.

Present: Senators Glenn, Roth, Cohen, Bingaman, and Heinz.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman **GLENN**. The hearing will be in order.

Today's session is the third in this Committee's initial set of five hearings on competitiveness and trade. Last week we heard from Treasury Secretary Baker and Commerce Secretary Baldrige, as well as from a distinguished panel of academic and public policy experts.

The dramatic internationalization of the U.S. economy that has taken place in the last two decades has put enormous pressure on our traditional human resource and foreign policy institutions. I am delighted to have the opportunity for Labor Secretary Brock and Under Secretary of State Wallis to share with us their views on how the Government has responded to this pressure to date and how it should respond to it in the future, more importantly.

The core of the economy's domestic adjustment to the Nation's declining international competitiveness is in the workplace. It is well-known that the workers bearing the burden of this adjustment tend to be in "old line" manufacturing industries and are generally less skilled, less educated, lower paid and older, and thus less occupationally mobile than other workers in the economy. Hence, it is a stark reality that those that are likely to suffer the most are those least able to do so.

Of course, the Nation as a whole gains from international trade, but while greater trade creates jobs, the skills required by these new jobs are often different from those required earlier. As a result, blue collar workers, who constitute a large percentage of our manufacturing workplace, have been facing declining job prospects. In my view, one of the greatest challenges we face in Government in the human resource area is to modify our labor adjustment programs to take into account that the changes in the composition of employment we have been experiencing are not transitory or circumscribed, but rather ongoing and systemic.

Our ability to be a strong competitor abroad depends on an effective foreign policy, among other things. In this vein, a preferred solution to the Nation's current trade problem is to gain greater access to foreign markets and larger exports, rather than to close our domestic markets to imports. To be sure, we live in a world where some of our economic rivals do not play by the same rules as we do.

Consequently, there are times when we must be tough. We must also strive for a balance between our competitiveness and trade policy concerns on the one hand and our foreign policy concerns on the other. Of course, the two need not be always at odds with one another and we should always be looking for ways that both can be satisfied.

Senator Mitchell has asked that his statement be made a part of the record, so without objection I will do that at this time.

[The opening statement of Senator Mitchell follows:]

OPENING STATEMENT OF SENATOR MITCHELL

The United States lives in a changing world. In the past, economic flexibility and progressive technological change often has provided us with a competitive advantage over other nations.

The dynamic nature of our economy, marked by free enterprise and free markets, is what has made us different from other economic systems. It has been the key to our economic strength. It also is the key to our future.

No nation, and no industry within a nation, can be protected from competition—either at home or abroad. Technology changes. New products are developed. Demographic patterns shift. American manufacturing firms must adapt their output to new demands.

Often that means the loss of jobs done to imports. Ideally, the nation as a whole should prosper from changing tides of trade in which exports increase along with imports. Even under ideal conditions—and the recent United States track record is far from ideal—individual workers within specific industries are hurt.

A cornerstone of any nation's trade program should be an effective, comprehensive program to provide adjustment benefits to workers whose livelihoods are sacrificed for the broader interests of the nation.

Government programs must be available to help workers in times of economic transition—to support them and their families, while retraining them for new, more competitive jobs.

Chairman GLENN. I am very pleased you are with us today, Secretary Brock. Your expertise as USTR and now as Secretary of Labor will be of great benefit to the Committee and we look forward to your statement.

TESTIMONY OF HON. WILLIAM E. BROCK, SECRETARY OF THE DEPARTMENT OF LABOR,[1] ACCOMPANIED BY ROGER D. SEMERAD, ASSISTANT SECRETARY FOR EMPLOYMENT AND TRAINING, DEPARTMENT OF LABOR

Secretary BROCK. Thank you, Mr. Chairman. Let me say what a pleasure it is to be back before this Committee. I served on this Committee and I have an enormous respect for it and for those who lead it.

Chairman GLENN. I know you were on this Committee and no one is more familiar with our jurisdictional aspects of this. As we indicated before we started this morning, our part of the whole trade package is basically in the organizational aspects of it.

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[1] See p. 374 for Secretary Brock's prepared statement.

Secretary **Brock**. Right.

Chairman **Glenn**. This Committee, as you probably well recall, has probably the broadest mandate of any Committee on Capitol Hill in that we oversee all organizational aspects of Government, as well as efficiencies of Government, and that gives you a mandate to consider about anything you want to consider on this Committee, as well as the legislation that gets referred to this Committee is as broad as the functions of Government just about.

Secretary **Brock**. That is right.

Chairman **Glenn**. So it gives us a full plate, and particularly now, and particularly with this issue, so we welcome you back again.

Secretary **Brock**. Thank you. It is a fun Committee and it is nice to be with you.

We are going to talk about competitiveness and our Nation's ability to compete. I really do believe that this is a long overdue conversation and I am delighted that you are holding the hearings and addressing the subject matter.

It is important for you to do that. It is important that Democrats and Republicans, Congress and the Administration work together effectively to deal with what is a coming problem.

I am accompanied this morning by Roger Semerad, who is the Assistant Secretary for Employment and Training in the Department and he is my principal advisor on many of the topics to be discussed today. Obviously, he wrote the testimony. [Laughter.]

Chairman **Glenn**. We welcome him.

Secretary **Brock**. I am teasing him. We will submit the statement for the record, and it is excellent, but let me just try to summarize very briefly.

We have submitted on behalf of the President a massive legislative proposal. Not a single solution, because there is none, but an integrated and multifaceted approach that deals with trade problems, science and technology development, and intellectual property rights.

But as you mentioned, Mr. Chairman, it is my opinion that it is the proposed investment in human capital that is the most important component of any effort to deal with the competitive circumstances of this Nation. Success in all of these other areas will not make America more competitive if our work force lacks the skills and flexibility required for jobs of the future.

We have proposed four components in this package: a new Worker Readjustment Program; a new initiative to target services to welfare youth under the Job Training Partnership Act; we have proposed to refocus the Public Employment Service; and we have proposed to decentralize administration of the Unemployment Insurance System.

I want to just stress at the outset that I feel very strongly the need for these components to be integrated with each other. It does not make sense to approach this problem of enhancing America's competitiveness in a piecemeal fashion. We have proposed these initiatives as part of the larger Presidential initiative and would pray that they be looked at within the context of our total problem.

Our goal is to establish a new and more flexible, more closely integrated, and a more rapid response training and employment system at the State and local level. We intend to strengthen the partnership between the private sector and the Government. We intend to increase the Governors' discretion in State control and flexibility in managing these programs; and we propose to significantly increase the role of the private sector through local Private Industry Councils and State training councils in the planning and delivery of services, because we found out it works.

We are also submitting separately a reform of ERISA in order to deal with minimum funding standards and to deal with over funding problems that we have identified in the current pension system. These problems have not just a tangential but sometimes a direct effect upon the competitive situation in several of our industries.

Let me just focus on a couple of fundamental problems: First, the need to break the cycle of welfare dependency among youth from AFDC families; second, the need for rapid reemployment of experienced workers who have been displaced due to changing economic factors.

It really does not matter whether workers are displaced by trade or technology or simply changing consumer preferences, they are out of work.

There are some skills that cannot be appropriately applied any longer. This country needs these workers and their talents and we have to find ways to give them a chance to restore their skill to a productive endeavor.

With regard to the AFDC Youth, the fundamental proposal is to take $800 million under the present Summer Youth Program and allow communities the option of using those funds for year-round remedial education and skill training for young people who are from families receiving assistance under the Aid to Families with Dependent Children [AFDC].

I just do not believe it is possible for us to compete in the world market if we are going to have a major group of individuals in this country who are permanently barred from participation in the economy because they simply have no skill and we are giving them no opportunity to acquire sufficient skills to participate productively.

With all the faults we have, we have been trying to deal with the fundamental problem of unemployment with a good program, the Job Training Partnership Act, and it has worked. But there are a lot of people left that have not been dealt with who are still caught in the poverty trap and we have got to find a new way to bring them into the system.

That is the essence of this proposal for AFDC Youth. I want to stress that I do not think that it is just a humanitarian goal, as noble as it may be, but an economic necessity if this country is going to have the people necessary to fulfill the skill requirements of a growing economy.

The new Worker Readjustment Assistance Program is more broadly targeted at people who are unemployed. Too many people have lost their jobs due to circumstances beyond their control. Those individuals have skills, they may be in a declining industry, and they can, if given the proper retraining, become the competitive edge in a growth industry.

That is really what we seek to do. There is no question about their skill. There is no question about their dedication. There is no question about their discipline, their ability. They have earned all of those descriptive terms. They are a resource that we cannot afford to waste if we are going to maintain our world leadership.

What we have today is a disconnected approach to the problem. We have Trade Adjustment Assistance. It is a nice program. It does not work very well. It is slow and cumbersome and difficult to administer. We have the JTPA Dislocated Worker Program under Title III. That works a bit better but it still is not sufficiently flexible or comprehensive. We have Unemployment Compensation, and obviously, that does not deal with reemployment, although it should.

Each of these approaches has serious limitations, and the difficulty we have in administration of the programs is that they are descried by different Committees with different programmatic approaches and therefore they are not coordinated.

What we are proposing to do is to terminate the JTPA Title III, Dislocated Worker Program, and TAA and merge them into a brand new $980 million program for worker assistance building on the best features of JTPA.

What we propose to do with the worker readjustment program is to triple the number of workers being served to 700,000 a year. We would try to provide assistance in a much more expeditious fashion, because it is, I think, abundantly true that the quicker we can get to somebody, the better the chance of helping them. So we would emphasize early response.

We would encourage the partnership concept that we learned worked so well under JTPA. We would emphasize voluntary advance notice of layoffs and plant closings so that we can get in, again, early. And we would attempt to establish a very close linkage with the Unemployment Insurance System. It is, I think, sufficiently well documented now that the unemployment insurance system could, if more effectively managed, do more than simply sustain people in unemployment. It could offer them an opportunity to get reemployment.

The approach offered by our proposal would encompass two basic categories of services: one, basic readjustment services, including assessment, consulting, job search assistance. That is the quick response capability;

Two, the retraining services. This would involve a lot less people, because we do not think most people need it. But where they do we will provide classroom and on the job training and relocation assistance for those who need that in order to find gainful reemployment.

The workers would be eligible to receive certificates of continuing liability for training for up to two years, if necessary. The key to all of this is to provide the assistance they need and want early.

The proposal would also encourage joint labor-management committees, and would include a trained staff to help local communities develop a coordinated response to the dislocation.

The proposal we would give a great deal of additional authority to Governors and to local communities. We would build this, in effect, on the JTPA system using an allocation system that assures targeting of funds to the most critical problems and areas by the States.

We have also developed a proposal to refocus the Employment Service to better address labor market needs. States, under this plan, would have much more flexibility in managing the scope and nature of their public labor exchange. Beginning in 1990, States would assume responsibility for funding public employment services.

The source, which is presently a tax on employers, would not necessarily change, but the States would have a lot more management authority to run that system and to deal with the problems more effectively within the context of that particular State.

Last, we suggest a significant improvement in the procedures in the adminstration of the Unemployment Insurance System. The basic elements of the system would be retained, but the changes would replace an overly rigid Federally-managed system with a much more flexible, State-administered system that would be more adaptable to individual needs and circumstances within the State.

The quickening pace of competition, which all of us have observed, means we have got to quicken our response. That is what we are proposing to do. In essence we are saying that we know what works. It is not difficult. We have to find ways to get necessary services to the individual so that we can maintain our competitive edge and offer the opportunity for individuals to be productive.

The essence of all of this is to say that we now live in the fastest changing economy in the history of the world. The industrial revolution would pale by comparison. That is not going to change. The human capital component of this Nation's competitive strength is its most important component.

We simply have to find a way to do a better job of educating our children and continuing the development of those skills and training opportunities for our workers throughout their working lives if we want to compete. If we do that, then I do not have any concern about this Nation's competitive circumstance in the future. If we do not, Katy bar the door.

Thank you, Mr. Chairman.

Chairman GLENN. Thank you very much, Mr. Secretary.

We have been joined by Senator Cohen and Senator Roth here. Do you have any comments before we go to questions, any opening statement, Bill?

Senator ROTH. I have no comment except to welcome Secretary Brock. As I have said many times, I think he is one of our most able public servants, and we are pleased to have you here today.

Secretary BROCK. Pull the mike around when you say that Senator. I appreciate that. [Laughter.]

Chairman GLENN. Thank you.

Bill.

OPENING STATEMENT OF SENATOR COHEN

Senator COHEN. I have a couple of comments. Number one, to welcome Secretary Brock, I will say for the microphone that you are certainly one of the most able and in the past I have found you one of the most responsive individuals within the Administration.

That is the good news, Mr. Secretary, because I find that in my own mind I have a good deal of skepticism about the new program and the current buzzword of competitiveness. Frankly, I must tell you that I have found in the past that the Administration—not only this one but other administrations as well—have tended to use some fig leaf phrases to cover a rather naked indifference to the plight of a lot of workers who have lost their jobs due to some of the trading practices of foreign competitors.

I recall the Administration's first reaction was, "Let them vote with their feet." I remember that phrase very well. It did not bring much consolation to a lot of people that I represent. You take a 55-year-old shoe worker who may or may not have a high school education—chances are he or she does not—but who has been working at that trade for about 30 years and tell that person to pick up and leave the rural section of Maine and move to the District of Columbia and take up a dishwashing job is not much consolation to people, and yet that was the attitude that was reflected by the Administration, "Simply, it is too bad, go get yourself another job wherever."

Then we had the Trade Adjustment Assistance Act, which you mentioned today. It does not take into account, frankly, the kind of problems that we have, Mr. Chairman, in a State like Maine. I am talking particularly about shoe workers and textile workers and the fact that we have about 1.2 million people spread out through the State of Maine.

I used to be the mayor of the third largest city in Maine, and I think the population was about 35,000 or 38,000. That tells you something about the size of the communities in my State, and when a shoe factory closes down, or a textile factory closes down, there is no other job available.

There is not other work available, so to talk about training readjustment assistance and whatever, it does not help much if you train people for jobs that are not going to be there.

On the other hand, we had a sort of Catch-22, namely that I was told by, I believe, OMB Director Jim Miller during his confirmation proceedings, "Your problem, Senator, should not be one of protectionism, it should be trade readjustment assistance." I said, okay, and I looked at the budget and the funding had been cut.

On the one hand, they are saying to get some retraining and, on the other hand, the Administration was cutting the funding for it. So I became even more cynical and skeptical about what the Administration's goal was. And now we come to the point—I think you just touched upon it briefly—saying we should not really discriminate in terms of people who have lost jobs, be it from foreign trading practices or just by virtue of the fact that they are out of a job.

That tends to, I think, mask this indifference that has been reflected in the fact that the Administration has not done very much to deal with the unfair trading practices of a lot of countries until just recently. Only in the face of a mounting insurgency coming out of the Congress has suddenly the Administration come forward.

So, Mr. Chairman, you asked me if I had any remarks. Those are my general remarks and I will save my other comments for questions. But I would reiterate, of all the people that I had to deal with during these trying times of people losing their jobs by the thousands in the State of Maine, Secretary Brock, when he was our Trade Representative, was certainly the most sympathetic and responsible that I had to deal with.

Thank you very much.

[The statement of Senator Cohen follows:]

Prepared Statement of Senator Cohen

Last week, this committee focused its attention on the role the Federal Government should play in promoting competitiveness of U.S. industries in the world market. Today, I hope that the committee will focus on a crucial aspect of industrial competitiveness, namely, how we, as a nation, go about helping the millions of Americans who have been the victims of our failed trade policies. These victims, of course, are the workers who have lost their jobs due to the influx of foreign imports.

As a Senator from a small, geographically isolated State, I am acutely aware of how difficult it is to retrain workers from older industries which have had to shut the doors of their plants and factories. In recent years, Maine has seen its textile, footwear, apparel and paper industries, along with the agriculture sector, experience a rapid decline—in large part due to increasing import competition. Recent statistics from the Maine Department of Labor on the number of jobs lost since 1980 in these industries are truly staggering: over 9,000 in leather and leather products; over 3,400 in the textile and apparel sector; and over 1,100 jobs lost in the paper and lumber complex.

The administration may argue that these workers should "vote with their feet" and move to where there are new jobs. It is not, however, that simple a solution. What do you do when you are a 55-year-old shoe worker who has spent the last 30 years performing a skilled craft that is now well on its way to extinction—and is being performed by either a machine or a worker in Korea who is being paid 88 cents per hour? The Federal Government's response cannot simply be "too bad, get another job". Rather, the Federal Government must provide the means by which that worker can acquire the skills to perform a new job. That is the purpose of the Trade Adjustment Assistance Program and a function that the Federal Government must not, in my opinion, abandon.

Since 1962, the Trade Adjustment Assistance Program has provided the means by which American companies and their workers can make the difficult jump to the new competitive realities of the world marketplace. The underlying value of this program has long been recognized. Even during periods when the United States has enjoyed a positive trade balance, certain sectors of our economy have required a measure of assistance to regain their competitive position. The need for this program becomes especially critical during times like the present when scores of U.S. industries and their workers are feeling the devastating pressures of import penetration.

In my own State of Maine, the manufacturing industries have been particularly hit by surges in imports. Since 1983, some 1,370 workers have participated in retraining programs. Currently, over 550 Maine workers are taking advantage of Federal retraining programs. Given the loss of some 14,000 jobs in the footwear, textile and paper industries in recent years, the importance of a strong Federal-State commitment to worker retraining cannot be overemphasized.

It is not a secret that this administration is no fan of the Trade Adjustment Assistance Program. Repeatedly, I have joined efforts with several of my colleagues to preserve this program that provides one of the few hopes left to displaced workers. Now, in the administration's competitiveness initiative, the administration proposes an expanded retraining program essentially in the form of a block grant. I have grave concerns that this proposal is not the way to help Maine textile, shoe and paper workers who have been the real losers in our trade war, and that the proposal may spell the end of the Federal Government's commitment to retraining workers.

While there is no question that the current trade adjustment assistance programs need to be refined, I have seen the positive effects that Federal retraining programs have had in easing the painful transition from these older industries toward other productive employment. The vital Federal-State partnership in helping these workers must not dissolve under the guise of a Federal block grant program.

The Congress and the administration should work together to develop changes in the existing programs to better perpare the American workforce for productivity and success in the years ahead, and I look forward to achieving that goal.

Secretary **Brock**. Thank you very much.

Chairman **Glenn**. Fine. Thank you very much.

Before we start on some of the regular questions involving the legislation before the Committee, I note in the paper this morning "Fears of Trade War Pummel the Markets." I am sure you have looked at that this morning. I would appreciate any comments you might want to make on this.

It involves the current trade problem and we have taken some action against the Japanese which I applaud. I wonder if it goes far enough. I think we are talking about the trade deficit with Japan of somewhere around $30 billion.

Secretary **Brock**. It would be a good deal more than that this year, Senator.

Chairman **Glenn**. What will it be for the year?

Secretary **Brock**. Probably double that.

Chairman **Glenn**. Double that? Sixty or seventy billion?

Secretary **Brock**. It could be.

Chairman **Glenn**. And we are dealing with some $300 million, which is only a nibble at the overall problem. I wonder if you would want to comment on this and the fears of a trade war that are now running down the London market, our market, economic centers around the world.

Do you have any comment on the reports in the paper this morning?

Secretary **Brock**. Well, I think what happened in the market yesterday—a 57 point decline and an 80 point decline at one moment during the day, the first hour of trading—was good and sufficient evidence of the concern that exists in the world that the United States might take a much more violent protectionist stance.

There have been some very vigorous statements made in Congress about the need for just simply overt protection, and that scares anybody in any market because protectionism by definition is a reduction in the exchange of goods and services. That means that everybody does less business.

Everybody does less business with protectionism and therefore the markets are going to react. It is going to scare the blue dickens out of them, and it should. It scares the blue dickens out of me to hear some people talking like they talk in this Congress.

The fact is that I think what the Congress is beginning to do, and particularly over in the House—I give them credit—they are looking at some fairly thoughtful changes in the trade law that would strengthen this Nation's hand in the appropriate way, without going into an overt erection of massive new trade barriers. So I think the market is overreacting rather substantially.

I really do not believe, in the final analysis, this Congress wants to react Smoot-Hawley. I really do not believe that. There are too many good people on both sides to be that dumb. But it does scare people, because what happens, whether you are talking about a military conflict or a trade conflict, these things sometimes take on a life of their own.

Mr. Chairman, when you start something you better be very sure that you know where it is going to end up, and I think the market is not quite sure of whether we have started something that might get out of control with this Japanese action. My own attitude, frankly, is that I do believe we had to take the action. I really do.

The agreement was made with Japan last year. It was not kept. And when an agreement is not kept you have to take some steps to see that it will be kept in the future. You have to enforce it.

Understand that when we talk about just $300 million, just to address that precise point, we are talking about impacting a lot more trade than that. That may appear to be the tip of the iceberg, but the action is a much more fundamental action than that. And frankly, it is my belief that the Japanese will respond and respond with some alacrity to try to deal with the problem.

The difficulty in dealing with that country, though, is not a short term difficulty. The problem in Japan is cultural. It is societal. It is, least of all, governmental. And that makes it much tougher to deal with in a short term setting than we would like, so it is going to be uncomfortable.

Senator COHEN. Will the Chairman yield to the Senator at this point?

Chairman GLENN. Certainly.

Senator COHEN. Why is it that we rationalize the Japanese protectionist policy by saying it is cultural, or it is heritage, or it is societal, when in fact, those same pressures are either endorsed by the Government silently, or simply they succumb to the pressures of their societal heritage and cultural pressures. We dismiss it as that and call it protectionism over here, when in fact they are just as protectionist, by succumbing to the pressures, as we might be in this country.

When you say that talk of protection scares you, well, we are only talking about it. They are doing it over there. They are doing it over there under the notion that it is only cultural and some part of their heritage.

I do not want to take the Chairman's time, but I have heard that many times, Mr. Chairman, and they are as protectionist as anything we ever talked about in this country. They have a wall that is as impenetrable as anything we have ever contemplated. It is equivalent of a Berlin wall, a Berlin trade wall over there. But we tend to just rationalize it away, saying we are dealing with their societal customs, and I just do not think that that is fair.

Secretary BROCK. Well, it may not be fair but it is accurate in that the governmental barriers have been steadily reduced. Somebody made that analogy that as you reduce the barriers that exist in Government you are reducing the level of the water and all of a sudden the rocks and shoals are showing up on the beach. They were there all the time but these are barriers that exist in the business community and the internecine relationships that they have there that go beyond the capacity of the Government to change.

So it is fundamentally an insular attitude on their part that is a product of the paranoia of a small country that lost a war and wants to be very sure that they never get in that situation again.

I am not making excuses for them. I have precious little patience at all with the Japanese. I think vigorous action is called for, but I think it is dangerous to think that the election of a prime minister in Japan is going to change very much. I just do not think it will.

Chairman GLENN. I applaud the President's efforts at increasing funding for retraining, and you are stressing as the number one item that you are pushing for is the betterment of human capital, but frankly, I think all of these things that we are talking about here are very, very short run in nature.

Most of the programs that I think we need now if we are really going to be competitive in the future are a little bit longer run than are being addressed, particularly in the area of education. I think that is so fundamental. I think this country got to be what it is not just because of resources but because we set up an educational system for everyone in this country and did it better than any other nation, with all of its faults, and we put more money into research than any nation in history.

We learned the new things first. Now we see ourselves for the first time in history being out-competed by other nations, and we are not addressing the basic needs of our children. We talk about retraining adults but it is a lifetime program we need to set up by job retraining or whatever.

But basic education is suffering, especially when you look at Japan; the kids there are going to school 215 days a year, and in Europe it is 205, and here it is 185. I have been in other schools and I wish I could say that our kids are working hard enough to make up the difference, but if anything it is the other way around.

And when the Administration chops back the Department of Education's budget from $19 billion to $14 billion, over 25 percent reduction, I just do not see that as a commitment to the long term at all.

Secretary BROCK. Well, let me address that. Not the budget question, but the fundamental issue you raise, because I could not conceivably agree more. I do not believe I have made a speech in the last 2 or maybe even 3 years in which education was not the primary thrust of my message. I am fed up, contemptuous, disdainful—you choose the word—of those who have been pandering the American educational establishment for the last 25 years instead of kicking rears.

From 1963 to 1983 we had 20 years of reading/math/verbal skill scores declining every consecutive year below the previous year and nobody got fired. Now doggone it, the first thing we ought to do is abolish tenure if that is the problem. Second, we ought to remove the people that are in command.

Chairman GLENN. Well, I agree. We could point out some objectives for our educational system. Basically the elementary and secondary education has remained under the province of the State and local communities, that is true. And the Federal Government has never gotten into it more than about 7 to 9 percent at its peak. I think it is running around 7 percent right now, and that money is for school lunch programs and a whole bunch of things that do not necessarily have to do with academic excellence.

But post-World War II we developed a support system for higher education that came basically from the Federal Government, and now we are chopping back on that, a policy that was designed by the Administration. I think that may be penny wise, but it is as pound stupid for the long term future as anything I can think of.

We are not going to be competitive when we have our higher education going down and fewer kids able to go on to college. We are having more foreigners come in and get their Ph.D's now than our own people. Post-doctoral, which is really the productive research area, is predominantly foreign now in this country and we are not doing anything about it. We are saying instead, if it is worth doing the States should do it. I just disagree with that violently.

Secretary **Brock**. Well, I am not saying that. I am trying to agree with you without saying that I think higher education is the problem. The study that was done on United States and Japanese education said that while they were killing us at primary and secondary levels, we are still eating them for lunch at the higher level. We are eating the world for lunch in higher education. We are good.

There are a lot of places that I would criticize, but fundamentally the higher education in the United States is unique. It is the only mass available education at that level in the world, so while I agree with you that it needs shaping up and I agree with you we could do a lot better job, particularly in sciences and some of the technology training that we need, Senator, we do not have time to hurry at the top. We have got to do a better job on the bottom.

You mentioned training. I am going to tell you. A third of our colleges front-end budget the first year is on remediation. What do you think this training program is all about? I have got to train people because 40 percent of the kids coming out of the schools of this country, the high schools, cannot read the doggone diplomas they have been given. They do not even read at the ninth grade level.

Forty percent of the recruits into the Navy this year who have a high school degree cannot read at the ninth grade level. It is crazy to talk about starting at the top.

Chairman **Glenn**. Well, then, do we not need more Federal support in that area instead of less? There are lots of communities where there is a declining industrial base and they cannot just expand the schools. Is that not a role for the Federal Government to come in and make sure that our kids have a decent education?

Secretary **Brock**. We have a role. We have a leadership role, we have some funding role, but the Federal Government's role primarily has been one of compensatory effort at the primary and secondary level. In other words, the leveling out of the process to deal with things like that.

I do not believe that any of us can absolve ourselves of the responsibility. I am not disagreeing with you in terms of where we go.

Chairman **Glenn**. We are on the same side in this, I think, but does it make any sense for the Administration to cut back the Department of Education from $19 to $14 billion in the face of exactly what you were just saying?

Secretary BROCK. Well, let me ask you a question, are we getting value received for what we are spending?

Chairman GLENN. Get what? I am sorry.

Secretary BROCK. Are we getting value received for the money we are spending?

Chairman GLENN. Well, we are getting something out of it. I do not know whether we are getting value received, but you do not solve the problem by chopping back support and getting nothing then. You will get zero as opposed to something as I see it.

Secretary BROCK. The expenditures have exploded in those same 20 years when the schools went to hell in a hand basket. I am not saying we do not need some money. I cannot make that case. I think we do, and I think we need to impose some discipline and some standards.

But why don't we say that a teacher in any school receiving any Federal money, or any other money, in order to be allowed to teach, ought to have a degree in the subject they are teaching instead of a teaching degree? CED made that recommendation. How many States are acting on it?

You still have a whole lot of States that do not even require sciences courses and language courses. Thirty-eight percent of the money in this country goes to teachers. Where is the rest of it?

Chairman GLENN. Would you advocate making those standards Federal standards then and then the States would have to adhere to them? I think it is that important for the future.

Secretary BROCK. Well, as far as I am concerned, I am a pretty radical guy on this subject. I do not know that I want to get any more into Bill Bennett's chair than that.

Chairman GLENN. How do you get standards? I agree with you on setting the standards and making the States live up to them. How do we do that?

Secretary BROCK. Well, if it was me I probably would not fund anybody that did not meet certain standards for any reason, but that may be impractical. I just do not know. I am not sufficiently wise on all the nuances of the bureaucratic process to answer that without giving it some more thought.

I personally believe that we ought to stop funding anybody that does not meet certain basic standards, and I do not care whether it is local, State or national.

Chairman GLENN. Well, you and I are on the same side of this as far as concern goes I know. I think we differ a little bit on the methods of dealing with it.

Under our "early bird" rule, Senator Cohen.

Senator COHEN. Well, I had a lot to say before Senator Roth came. I would yield to Bill if he would like to go first.

Chairman GLENN. All right.

Senator ROTH. Thank you, Senator Cohen.

Bill, I would like to briefly cover several areas. One is in the area of trade adjustment. This is not so much a question as a comment on my part, because again, I think we very much agree in general principle, but I am concerned that the Administration seems to continue to butt itself against the will of Congress in this area.

There is a pretty broad bipartisan approach on trade adjustment in the Finance Committee, and the House Ways and Means Committee. I do congratulate you on the fact that you have come up with a new proposal, although some people think in a way that this is merely an old program with a new name, that it is really the Job Training Partnership Act all over again.

But what I would like to urge you to do is to look again at our proposal, which provides not only for additional compensation, which is already written into the law. I think there is good reason for that because those workers are suffering because of a deliberate policy of the Federal Government on trade, so that I think there is reason to give them extended compensation.

I would also say that I think it is important that we have training, and I have to agree with Bill Cohen, it does not answer all of the questions. But nevertheless it is an important part, that we do retrain workers, and we do it through a voucher system.

And finally, I think it is most equitable to have this paid for by some kind of a small fee negotiated in GATT. Why shouldn't those who benefit through lower prices for products that come about through liberal trade policies pay the burden of those who are impacted negatively?

It seems to me equitable and fair. I would hope that the Administration would carefully consider that in the future. I do applaud the role that you are playing, because I know it is very positive and very constructive.

I would like to turn briefly to another area, and I am not going to ask you whether you prefer a department of trade or USTR, but as one who has been very effective as a USTR, would it not make good sense to somehow restructure our trade bureaucracy in order to consolidate the basic trade policies, the negotiation and implementation somewhere in Government, and avoid the splitting of responsibility we now have?

Secretary Brock. Probably, but let me make a couple of elaborative comments, because a simplistic answer on that one will be, I think, more confusing than helpful.

I have, I think, consistently felt, and communicated to you my feelings, that a merger of the actual trade enforcement function, oversight function, probably makes some sense.

But it is, I think, dangerous to make this second leap of assumption that that will allow us for a greater coordination of policy. And there really is a difference between the implementation of policy and the establishment or the design of that policy.

In the final analysis the Congress reached a conclusion when it set up the U.S. Trade Representative's office, and the conclusion was this, that nobody—no Secretary of the Treasury, no Secretary of State, no Secretary of Commerce, no Secretary of Agriculture, no Secretary of Labor, or any of the others—had a sufficiently broad mandate to look at the national interest to be given the responsibility for the total control of trade.

Therefore, the USTR was set up to coordinate all of those different threads and be sure that everybody had a voice, but to have one house where the final policy decision had to rest. And that was supposed to be in the White House.

I still believe that in the final analysis trade policy is going to be set by the President or nobody is going to set it. And that means that the individual who is in charge of this coordinative role should sit as close to the President as he or she can.

I have believed for a long time that we need almost a counterpart of the National Security Council that would be, in effect, an economic security council, something that put trade policy at that level of priority. Because I think economic security is at least as important as national security in the classic military sense.

I think our military strength is entirely dependent upon our economic capability and without that economic capacity we are not going to be strong militarily for very long. So that is the essence of it.

Before I leave the response to you, I want to go back to something you said about trade adjustment assistance. My friend, you know that I am as strong an advocate of the Congress as there is in this Administration. I really believe in this body. I believe in its Constitutional role.

With all the respect I have for the incredible intelligence and dedication and decency and patriotism of the 535 members who comprise this body, on occasion you are wrong. And I really believe you are wrong on trade adjustment assistance. Not you individually, because I think what you are trying to do is precisely what we are trying to do.

But let me tell you, trade adjustment assistance as it has evolved is not a good program. I have only got about $26 million for training in the whole thing. What I am proposing is $980 million worth of training assistance that goes across the entire span of dislocation, regardless of cause. That is three times the assistance that is available in dislocated workers under Title III and TAA put together. We are proposing to triple the assistance, with one-half of the total amount earmarked for retraining services.

The frustration I have with trade adjustment assistance is that people think that there is some entitlement when you lose your job because a Japanese car is sold here instead of a Volkswagen that is made in Pennsylvania.

Well, I do not understand that.

Senator HEINZ. Let the record show that there is nothing wrong with Volkswagens made in Pennsylvania. [Laughter.]

Secretary BROCK. I do not think there is either, John. That is exactly what I am saying to you.

You see, it does not matter to me whether you lose your job because of an import or because of a changing technology that says, look, we have got to automate this plant if we are going to compete with anybody, domestic or international. Therefore we are going to put in a labor saving machine and therefore the functions that you have performed are now redundant.

Those workers have a skill that is necessary for this country's well-being. Those workers are human beings whose participation is important to our society. We have to deal with that problem either way, and I do not understand why it makes sense to continue an unworkable program that is not yielding particularly decent benefits or anything else, and therefore make it more difficult to have a coherent program across the whole board.

Senator **Roth**. Well, just let me make a couple of comments, and with the Chairman's indulgence I have one other quick question I would like to ask.

First of all, what we have in trade adjustment was a compromise because the Administration fought the training aspects of the legislation adopted by the Senate and the House. I think retraining is critically important. We would provide a voucher. We would find ways and means to pay for it. But I think you and I are pretty much working generally, maybe not in every detail, in the same direction and I congratulate you.

Secretary **Brock**. I really believe we are too, in all honesty.

Senator **Roth**. The other matter of reorganization, and I agree with much that you say, and frankly I would be happy to consolidate any number of ways, but I do think that the present splintering of responsibilities does not give the kind of strength to the key advisor that is necessary.

It makes no sense to me to have the data and the collection of information by the Department of Commerce and negotiation by the USTR and then go back to the administration to the Commerce. It seems to me to be an inherently weak approach and our trading partners, the Japanese and others, know very well how to play this split.

But let me go to one final question if I may, and that is the question of research and development, which I feel strongly is key to our success in being competitive in the real sense of the word in the emerging world markets.

One of my concerns is that we are spending a lot of money, both in the private sector in our universities, and the Administration has made a proposal in this area to increase such spending, which I think is desirable. But the fact is that this research and development is as available to our competitors as ourselves, and maybe it should be.

The fact is that many of the other countries are beginning to invest, to put money into our universities to help finance and support research. Is this a problem? Should we be concerning ourselves with it? Because in the past research and development even took some time to spread around the world but today our competitors may have it faster than we do.

Secretary **Brock**. It is a problem in a different way. I do not worry about research and development on our campuses. Frankly, I would encourage foreign investment in that kind of research because it is generally available to all and sundry when it is made.

I worry more about some of the rules and regulations that we have established here in Washington which give Freedom of Information Act information, make it available to other competitors when in fact I am not sure that it is in our national interest to do that.

I have been told—I do not know if it is true or not—that in some areas where it takes 6 or 7 years to get an approval of a Government agency in this country—we have to file the patent application, the process application—that information is available under the Freedom of Information Act or some other Government rule.

And other countries have taken that information, put it into their plants and begun to sell the product and test market it in other countries before we are even allowed to turn on the first machine. I think we really ought to look for those things and be sure that we are not our own problem. One of the difficulties though, Senator, is that for some reason academics and business in this country have been like ships passing in the night, not communicating with each other.

The Chairman mentioned the need for more research and development. I would strongly agree with that. But I also think that a lot of people in academia ought to quit worrying about business and start communicating with them, and I think business ought to quit being afraid of academics and start getting out there on the campus and find out what is going on.

There is some incredible research going on in this country that will have commercial application. But if the Japanese are there and we are not, I do not think we can fault the Japanese. I just think we have got some idiots in our own firms that are not doing what they ought to be doing.

Chairman GLENN. Senator Bingaman.

OPENING STATEMENT OF SENATOR BINGAMAN

Senator BINGAMAN. Thank you, Mr. Chairman. I will just put a statement in the record if I may.

[The statement of Senator Bingaman follows:]

PREPARED STATEMENT OF SENATOR BINGAMAN

Thank you, Mr. Chairman. Today we continue our hearings on the government role in economic competitiveness. I am pleased that Secretary Brock and Under Secretary Wallis are with us today. These two witnesses span the domestic and international aspects of competitiveness, especially with Secretary Brock's past experience as the United States Trade Representative.

Friday, the Administration announced that it was ordering tariffs on selected Japanese products in retaliation for their failure to live up to the terms of the semiconductor accord. While I hope that this disagreement will be quickly solved and the tariffs reduced to their normal levels, I am glad to see the Administration has finally understood the seriousness of the problem. I hope that the Japanese government will also recognize the seriousness of the problems—not just in semiconductors but in all areas of U.S.-Japanese trade—and respond in a positive fashion. I hope Under Secretary Wallis will be able to describe the details of the recent action and discuss what other actions the Administration has taken with respect to our trade relations, not only with Japan but with our other trading partners.

This unfortunate situation is a clear result of our failure to pursue a coherent trade and competitiveness policy. At its heart, the debate over competitiveness is about re-establishing a positive relationship between the economies of America and the rest of the world, a relationship which will promote a higher standard of living not only in the United States, but in other nations as well. This relationship has shifted over the past two decades, to our detriment. Many economic indicators point of our decline: our massive trade deficit, our status as the world's largest debtor nation, our lingering high unemployment rate, our slow rate of economic growth. It would be foolish to think that we could recapture the earlier dominance of America in the global economy. But, we can and must create a positive role for the United States economy in the world's continuing economic development. To do so, we must have an active government policy.

As part of that policy, we must focus our attention on human resources. The strength of our economy lies in its people, their skills and their inventiveness. Patent protection, support for science and education, job retraining programs, worker and community adjustment assistance, and vocational training are all important components of our overall competitiveness policy, to name a few. I am pleased that the President has finally recognized the importance of government investment in human and intellectual capital, as evidenced in his proposed competitiveness initiative. However, I am concerned at the apparent contradiction between the recent initiatives, which promotes human resources, and the President's budget, which cuts funding for human resources programs. I hope Secretary Brock can clear up this contradiction and enlighten us as to what else the Administration proposes to improve our human resources. I also hope Secretary Brock will draw on his experience as Trade Representative to tell us how we can improve trade policymaking.

I look forward to an interesting discussion.

Senator BINGAMAN. Mr. Secretary, let me just show you one chart that an earlier witness prepared for us last week and see if you would comment on that.[1]

This chart is from Michael Porter, who is a professor at the Harvard Business School, and follows on Senator Glenn's point about the cuts in educational funding. In his explanation of this chart Professor Porter says, "The President's proposal goes very little of the way toward reversing the sharp drop in investment in human capital that has taken place in the U.S. since he took office."

He says, "Overall the Reagan budget cuts the Department of Education current $19.5 billion budget by about $5.5 billion. Education is absorbing about 30 percent of the total budgetary cuts from about $19 billion. This is simply unacceptable in the area of potentially greatest long term leverage for America's competitiveness."

Would you have any disagreement with his statement or with the chart that he has submitted to us? I do not know any basis for disputing it, but I thought if there was any basis I would give you a chance to cite it.

Secretary BROCK. If I look at the chart, the research and general education aids have been fairly stable for the last 14 years. The general science and basic research is up substantially in this Administration over the last two administrations. The elementary and secondary education is pretty stable since 1970 or thereabouts. And there is a proposed reduction in the higher education. I assume that is the point that you are addressing.

Senator BINGAMAN. I am addressing the fact that two of the three indicators seem to be dropping substantially in out years and one of them is going up slightly and one of them is staying about the same. I would point out that the figures—as I understand this chart—reflects outlays up until 1987, and not what the Administration requested.

Secretary BROCK. I don't know that. I am not familiar with those numbers.

Senator BINGAMAN. I think there were substantial cuts requested in each of these areas which were not agreed to.

Secretary BROCK. Well, part of my problem is that I really do not know the composition of the Department of Education's budget and I have done no analytical work on it.

If it is true that the bulk of the proposed cuts are in the student loan program and if it is true that that simply is an effort to reduce student loans to students who can afford to pay for their own education, I fail to see how that affects the quality of education in the United States.

Let me ask you an alternative question. If it is also true that the amount of money going to teachers has gone from 48 percent in this country down to 38 percent in the last 13 years——

Senator BINGAMAN. Thirty-eight percent of what?

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[1] See p. 367.

Secretary **Brock**. Of all the money in this country that is spent on education, only 38 percent is going to teachers. Let me ask you where in the dickens the rest of it is?

Senator **Bingaman**. Well, I think we can rail about the problems of education as much as we want. I saw an article where Secretary Bennett was saying it was just outrageous that we do not have more physics teachers and we do not have more of everything. But it is clear to me from these statistics that as far as Federal help in dealing with those problems, there has been less and less every year.

Secretary **Brock**. I think it is also true that the Federal programs have been focused—not in terms of fundamental support of education but in terms of compensatory education—I think that is the one area where the Secretary has increased funding so that at least there is some equity in the process.

We are going to spend 7 percent of the funds on education and there has been a decline of 10 percent in the share—or actually statistically a 20 percent decline in the amount of money going to teachers—you cannot put that on the Federal Government. You just simply cannot do it.

Senator **Bingaman**. No, but wouldn't you agree that if the Federal Government's role is compensatory then the need for the Federal Government to compensate is greater today than it has ever been?

Secretary **Brock**. In some areas that is probably true. It certainly is what I am trying to do with my program. When I talk about taking $800 million and putting it in AFDC youth, that is precisely what I am talking about.

Senator **Bingaman**. I think your program is to be commended. I compliment you for that. My concern is that while we are putting $800 million there we are proposing to take $800 million out of Federal funding for vocational education.

Secretary **Brock**. Well, then add both of mine up, because I have got another $980 million for worker adjustment.

Senator **Bingaman**. Do you get to participate in that part of the budget when it is prepared as well? Did they run the proposal to eliminate Federal funding for vocational education past you?

Secretary **Brock**. In all honesty, I was not part of that conversation.

Senator **Bingaman**. That would be useful, I would think, to someone such as yourself who does have a genuine concern about worker training, and I think your proposal is good.

Secretary **Brock**. Thank you.

Senator **Bingaman**. I compliment you for trying to put some funds in worker retraining. Let me ask about another part of the President's package on competitiveness. As I understand it, he is talking about incentives to encourage companies to give early notification of a plant closing or a layoff.

I am unclear what incentives he is talking about providing. Is there anything concrete or was that just sort of a desire?

Secretary **Brock**. No. We are proposing to set up what I guess would be called quick reaction teams to get into a community or a company that has a potential problem and work with them to at least ameliorate the impact of the problem as effectively as we can.

No company that I know of wants to close a plant and most of them will fight like the dickens to keep it open. When they are at the point where the prospects are pretty severe that they are going to have to, if they let us know, we can get in there and make life a lot more comfortable for them. We can help them with relocation assistance, job search assistance, training assistance, and that is a pretty nice inducement for them to work with us.

Senator BINGAMAN. So the availability of these teams to go in and help with that process would be an incentive for the companies to give an early notification of their plans as soon as they have made those plans?

Secretary BROCK. If they can, yes. The problem with going beyond that is fairly precise. As I said, I do not know of any company that wants to close a plant. Most of them will really fight tooth and nail to keep it open.

Let's take a circumstance where we require them to notify us under penalty of criminal law or whatever. And let's say it was just even 90 days, if they had not made the final decision but were afraid that economic events might force them to close within 90 days, they would have to announce it in order to not be sanctioned under civil or criminal law.

The minute they made that announcement their best workers are going to run for the hills trying to get other employment. Their suppliers are going to stop supplying them, certainly on credit, and the banks are going to stop extending them credit. What you have done is make it very sure that that plant is going to close. And that is the concern that we have.

That is why we are trying to build in all the incentives, because it is right to let workers know as early as you can. It is right for us to get in there and help. But if we by trying to help, create a larger problem, then we are making a mistake, and that is what we are worried about.

Senator BINGAMAN. Let me ask a very general question. Do you think it is appropriate for Congress or the Administration to consider building incentives in the tax code or elsewhere in law to encourage U.S. firms to manufacture here rather than going outside our borders?

Secretary BROCK. Well, I think it would be wonderful. All of the incentives now are to manufacture elsewhere.

Senator BINGAMAN. What would you recommend in the way of incentives? Is there anything the President would propose in the way of incentives to keep some of those manufacturing jobs here?

Secretary BROCK. You are going to get me in real trouble here, you know. The President does not want any changes in the tax law. And I am not sure we really ought to do it in the near term anyway, but I think we ought to ask ourselves some questions about the composition of our tax program and whether or not it enhances the international competitive circumstance.

Let me just give you an example. What is your primary product in New Mexico?

Senator BINGAMAN. We make some semiconductors, fewer every day.

Secretary BROCK. Semiconductors. Good suggestion. All right. But it does not matter. Let's say refrigerators.

In the United States you are going to pay local taxes and State taxes, FICA, unemployment insurance taxes, payroll taxes, income taxes at every level of Government. If you want to sell that semiconductor or that refrigerator in France, the minute you get to the French border you pay an additional 17 percent value-added tax.

Now, if you produce that same semiconductor or refrigerator in France, whatever taxes you pay in France are rebated at the border when it is sold in the United States. So we are paying twice. We are paying U.S. taxes—State, local, and Federal—and then we pay French taxes when we hit France.

I am not talking about tariffs. I am talking about a value-added sales tax, a consumption tax, if you will. They do not pay either tax. So we are hitting our people twice. And one other element to it, we put a tax on work in this country. It is called a payroll tax. We use it to finance Social Security, which is our most fundamental social program.

That tax has gone up from, when I came to the Congress, around, I guess, 8 or 9 percent total—business and worker's share—to 15 percent, approximately, now and going to 16. There is a substantial disincentive to hire people when you tax. The payroll tax is a double tax because it is not deductible from income tax. The majority of Americans now pay more in payroll tax than they do in income tax.

You add all of those elements up and you do not have a very advantageous set of circumstances for small, medium, and even large manufacturers who want to produce here. And I think it is worth some very serious attention to see if, in fact, that is logical, and if, in fact, we are going to be part of a competitive world, whether we can maintain a disadvantageous tax system.

Senator BINGAMAN. My time is up. Thank you, Mr. Chairman.

Chairman GLENN. Thank you.

Senator Cohen.

Senator COHEN. Mr. Secretary, I agree with you that we have a problem in education, but I think it is too easy to say that some teachers are concerned more with tenure than they are with teaching. That is part of the problem, I suppose.

Secretary BROCK. I did not mean to say it that simplistically. I hope I did not.

Senator COHEN. Part of the difficulty is, I think, not the Federal Government's response but our lack of priorities. I just came back from the NCAA tournament and saw the breeding ground for the future superstars of the NBA. We pay a million dollars to watch a basketball player stuff a ball through a hoop or we are going to pay $20 million to watch two people pummel themselves into unconsciousness, or hope that they do so, one or the other. That tells you something about where we place the priorities in our own society.

Secretary BROCK. That is right.

Senator COHEN. We do not pay teachers enough. It is very hard to encourage the best and the brightest to go into teaching today when you look at the wage scales that they are looking at and the kind of social problems that they are facing just to walk into that classroom, so our priorities are a little wrong, quite wrong, in terms of a society.

Secretary BROCK. That is right.

Senator **Cohen**. The second point I wanted to at least explore with you, you indicated that workers should be retrained regardless of whether they have lost their jobs as the result of foreign competition. It just seems to me that the Federal Government has a higher responsibility when a person loses their job to foreign competition if the Government has failed to enforce the existing laws that are barring unfair competition. We really have not done that.

I will tell you, in my own State of Maine I have found that whenever it came to an unfair trade practice allegation we lose every time. Whenever there is one State against the State Department or against another country, you lose every single time, because the State Department is not going to allow the State of Maine, or the State of Pennsylvania, to rock the boat over relations, let's say, with Canada on unfair pricing practices of their timber, or their fish, or their potatoes.

It just is not going to happen, no matter what the laws say. Every time you find a countervailing duty imposed, it will be waived in the interest of national security, or better relations with that country. It is only when it starts to spread across the whole spectrum of States in this country that you suddenly start to get a policy developed. So I think it does make a difference for several reasons.

One reason, if you lose your job to a competitor in the United States, you at least have some kind of comparable playing field, as we say. You have got to pay a minimum wage. You have OSHA regulations. You have unemployment compensation taxes and so forth. If you lose your job to another competitor, at least it is part of the American free enterprise system.

The difficulty of it is, when you lose your job to another country that might be paying 88 cents an hour to a shoe worker, or $1.80 an hour to a shipbuilder in Pusan, that has no or little safety standards, that happens to be flooding the market with what is the equivalent of slave labor, if you lose your job in that kind of a situation on a fairly substantial basis, it can lead to a rise in nationalism, a rise in racism, a rise in protectionism—that word we use today—and maybe even war.

That is how wars get started, when you start to see the kind of imbalance on a global basis that starts to take place. That is why we have trade laws, to prevent that kind of surge of either nationalism or protectionism or ultimately a real war as opposed to a trade war.

If you add to that fact that some of those countries erect the cultural or social barriers, if not walls, rocks and shoals and other barriers, then you really have the kind of fears generated about nationalism and protectionism in war, especially when you have a country such as Japan that has a major institution like the MITI saying, "Do not bother trying to sell your supercomputers here, because we do not care how many Ph.D's you have got, we do not care how good your education system gets under Senator Bingaman's proposals, we do not care what the standard of excellence is, we are not going to buy them, period."

That is what seems to me a difference in terms of how you relate to people who lose their jobs based on foreign as opposed to domestic competition. There is a difference. Historically, it has been recognized that we have to take some added measures when people lose their job as a result of the fact that they are not going to be able to compete in a given industry.

For example, there is virtually no way that we are going to compete in some of the older industries, and I mention shoes or textiles. I am thinking of China now, where the average income for a Chinese citizen would be $200 a year, a little bit higher. In Beijing it is about $400 a year.

Once you start turning loose that kind of manpower for those kinds of wages, there is no way in the world that all of the technology in the United States is going to compensate for that. So you have got to have certain rules about how much can come in. How much can you allow for a gradual reorientation of your own industries, recognizing that we are probably going to lose some of the older industries, hoping that new technology is going to carry us into the future.

But then you are faced with the kind of barriers that we are talking about, no matter how good your new technology is, no matter how much retraining you have for your workers, if you are not going to be able to penetrate markets, you have got a serious problem that will lead to not only trade wars but ultimately the violent type.

So I think there is a difference in theory and in practice about losing jobs from foreign competition as opposed to domestic competition, because you have certain rules set into place. That is just my belief, and I will not give you the time to answer it because you will eat up all of my time. But let me ask you a couple of other questions.

Secretary Brock. Let me just respond. I will try not to eat up all of your time, but you are such a thoughtful member and I think that the question is worthy of response.

I do not disagree that we have a special responsibility, particularly if we are not enforcing the fair trade laws of the United States. And if that finding is made I am perfectly prepared to support some special services for those individuals. But I cannot imagine why we did not solve the problem in the first place, which is to go after the unfair trade practice.

Senator Cohen. And let me say, you have done so in the capacity that you have had. But you have also been overruled by an Administration that has different responsibilities and different priorities, and that is the harsh reality of it.

You know for a fact that we are not going to take on Canada over an issue dealing with Maine potatoes. It has not happened in the past and it is not going to happen in the future, no matter how flagrant their subsidies are.

Secretary Brock. Okay. Well, let me stay away from the specifics and tell you that what I have brought you today, have I got a deal for you. I am telling you, this is the best thing you have ever seen. This is better than sliced bread.

We are proposing the most enriched worker training program in this country's history. We are adding $980 million. Now, here is what we propose to do. We are proposing to deal with three times as many workers as we are dealing with under the present TAA plus Title III.

Now Bill, I accept your premise, if we are only dealing with some of the workers in the United States, maybe we have a higher obligation to those that are affected by trade. But we are not suggesting that. There are a million and a half workers displaced in this country per year. About 50 percent of them need help. The others do not. They are going to find jobs just like that.

Now, maybe most of those 50 percent are in Maine. That is fine. What we are suggesting to you is that the present law requires me to program-grant these things out on a per capita basis regardless of Maine's needs. So what I have asked for is the authority from the Congress to triple the program to put enough money in to help anybody who gets displaced, whether is it trade-related or not.

So it does not matter, you see. We are going to help them regardless of the causal factors, and then we will be able to take a State like Maine where we really do need special support—because it is a larger problem per capita in its economic circumstances than other States—and we will be able to target our resources. I think that that is a better deal than what you have got under current law.

Senator COHEN. Where does this new-found enthusiasm for worker retraining come from? I did not find it in the Administration Section 201 escape-clause program.

Secretary BROCK. It has been there ever since I have been at the Department of Labor.

Senator COHEN. Well, I am glad to hear that. I know you have had some enthusiasm for the worker retraining program, but I must say that that has not been one of the real priorities of the Administration.

Secretary BROCK. That is true. I think the President made a decision that it is time it became a priority, and I appreciate that.

Senator COHEN. Okay. Now, you said that the President either sets trade policy or there is no policy. Just as nature abhors a vacuum, from your experience in Congress you know that we do, too. And that is the reason for S. 490. In looking at S. 490, which is called the Omnibus Trade Act of 1987, it does change some of the existing trade adjustment programs.

It shifts it from an income support to worker retraining, enrollment in required programs, some extension of the unemployment benefits, and a voucher system for retraining costs, which is funded by that across the board 1 percent duty. Why is your program better?

Secretary BROCK. I think what we try to do is to say that when you really are going to deal with the problem of training in this country, and unemployment, you have to look at it comprehensively, not in a trade-related sense, but in an across-the-board sense.

There are four component parts to this—one, the $800-million summer youth program that will be allowed to be directed to AFDC youth, their special problems and special needs; second, the $980 million that goes to workers who are displaced and who need help, regardless of the causal factors; third, a refocus of the Employment Service, and fourth, the return in the administration of the Unemployment Insurance system—because all of these fit.

What we have done is work with Health and Human Services, for example, to look at the welfare rules. It makes no sense to say you are going to lose your welfare benefits if you go on into a training program. That happens in States today, but that is crazy. We would like to get rid of those kinds of impediments to reemployment, or to employment to begin with.

I think our approach tries to do what you do. I am saying that in terms of its intent or its application there is not that much difference. It is just, broadly described, more comprehensive. And I think it is more flexible and we will get a faster response.

The old TAA approach has as a fundamental problem the slowness of action. It is very difficult for us to get in there as quickly as we think we need to.

Senator COHEN. Thank you very much, Mr. Secretary. My time is up.

Mr. Semerad, I apologize that we have ignored you during this entire hearing, but perhaps we will get back to you.

Chairman GLENN. We will ask him for a summary statement after the hearing.

Senator Heinz?

OPENING STATEMENT OF SENATOR HEINZ

Senator HEINZ. Mr. Chairman, thank you. First, I have an opening statement I would like to put in the record.

Chairman GLENN. Without objection it will be entered.

[The statement of Senator Heinz follows:]

PREPARED STATEMENT OF SENATOR HEINZ

Mr. Chairman, once more I am pleased that we are holding hearings on this Nation's competitive position. Moreover, I am very glad that Secretary Brock and Undersecretary Wallis are with us. They are among the most important players in the international arena.

I particularly want to commend Secretary Brock for bringing the issue of worker adjustment to the fore. His tireless work over the past year has lead to an excellent set of recommendations from the Lovell commission and the administration. Some of us may have differences over various provisions in the administration package. But that does not detract from the very real value that the Secretary's proposals have.

I agree with the Secretary that we must do our utmost for dislocated workers. This Nation cannot be competitive if our first team—our skilled workers—are sidelined. We need a new initiative to return these players to the field.

In testimony before the Finance Committee, Assistant Secretary Semerad stated that the administration proposal is based on fairness, arguing that unifying TAA and JTPA title III will end the discrimination that exists between import-impacted workers and other dislocated workers. Pennsylvanians know this difference all too well. As funds for trade adjustment assistance have run out, the Department of Labor has urged States to place workers in the JTPA program. Unfortunately, the JTPA program does not begin to resemble the TAA program. JTPA title III emphasizes short-term training and on-the-job training. TAA provides longer term classroom training, the kind that Pennsylvania steelworkers and mineworkers need if they are going to rebuild their lives. Until JTPA benefits are more in line with TAA. I cannot recommend that TAA eligible workers be dumped into the JTPA system because of a lack of funding, nor can I support elimination of TAA with no assurance that displaced workers will be able to receive either cash assistance or long-term training.

Cash assistance is of particular importance to manufacturing workers. Without it, these workers will face the unenviable choice of entering training, or feeding their families. This is unconscionable, and I hope the administration will reconsider their opposition to cash assistance for workers in training.

Senator Rockefeller and I have introduced legislation which would answer many of the concerns I have raised. It funds job training programs from a uniform fee on imports. It provides additional weeks of unemployment compensation for workers in training, and remakes JTPA title III in order to emphasize skills training and remedial education. I plan to see this bill move forward in this session of Congress.

Despite my criticisms of the administration package, I would like to again state my strong support for the thrust of the Secretary's proposal, and assure him that I will do all I can to assure that he has opportunities to make his points known.

Thank you, Mr. Chairman.

Senator Heinz. Let me just say to Bill Brock, we do welcome the Administration's initiative on worker retraining and assistance, and I think, as Bill Cohen has pointed out, it is a welcome and refreshing initiative. Those of us who are from highly impacted States like Pennsylvania, Maine, and other States that seem to be colder and rustier than the average have had a lot of problems. But not just in 1987. It goes back to 1982, but we do welcome your initiative.

I do have some questions about the way you see the current programs working, such as JTPA Title III. Now, as I recollect, about 1 out of every 10 people who are assisted under Title III JTPA get training. The rest get either job search or relocation assistance. Is that about right?

Secretary Brock. That may be slightly low, Senator.

Senator Heinz. But, roughly. It is in that area. Maybe 1 in 7 or 1 in 10, but it is a pretty small proportion. Whether it is 10 percent or 15 percent we will not quibble.

Second, what is the average length of training under current law for those people in training?

Secretary Brock. The average length of training is relatively short. You can measure it in weeks.

Senator Heinz. How short?

Mr. Semerad. I really do not remember, Senator, but it is something less than 2 months.

Senator Heinz. A matter of weeks.

Mr. Semerad. Yes. It is less than 2 months.

Senator Heinz. Yes. Less than 2 months, 8 or 9 weeks. What can you learn in 8 or 9 weeks if you have been working in a steel mill for 20 or 25 years, if you have been working in a textile mill for 20 or 25 years, if you are in a heavy manufacturing job and you are pretty good at doing what you are doing? What kind of really marketable skill can you learn in 8 or 9 weeks?

Secretary Brock. I think that we have two things you have to remember here. One is history in terms of how long people have utilized the available training, and our proposal, which takes into consideration individual choice and what might be available and what might also be the case of economic——

Senator Heinz. That is all very well and good, but I just want to get the record straight on what we are doing now.

Secretary Brock. Well, we have up to two years now available in training. The fact that people are not utilizing it is not the Government's fault. Our proposal today allows up to two years of training in any field. If you are a good worker in the steel industry and you want to move into an area that——

Senator Heinz. Well, that is good. I am glad you made that point. Let me ask you this. On page 6 of your testimony you indicate that if someone is receiving unemployment compensation and they enroll in a training program by the tenth week, they will receive an extension of benefits—of unemployment compensation benefits, I assume—but paid for by the worker readjustment program until they complete training.

Is that to say that if someone is in a two-year-long training program, as you have just indicated, that they would be eligible for that kind of stipend and they would receive that kind of stipend?

Secretary BROCK. Yes, that is correct.

Senator HEINZ. Well, I commend you on that. That is a very major change from what I understood the Administration's original proposal to be, because that way a worker will get both training—as you say, up to two years—and some way of supporting himself and his or her family.

Secretary BROCK. That will depend upon the State application, if they want that sort of program. We still leave the basic responsibility to them. But Senator, you well know that it is very difficult for anybody to take training for as long as two years.

It is pretty hard on a family for an individual to take training for 2 years without some form of compensation.

Senator HEINZ. And how.

Secretary BROCK. We are trying to deal with that, or allow the States to do so with reimbursement out of the fund.

Senator HEINZ. Mr. Semerad is familiar with the next question, which is the fact that with respect to the existing programs, in Pennsylvania we are out of training money for TAA, we are out of JTPA Title III money. But even if we were not out of JTPA Title III money, that to date has been dedicated, as you have mentioned, to very short term training and does not fit with the kind of training that we had been doing or hope to be doing under TAA.

At the Finance Committee hearing, Mr. Secretary, I asked Mr. Semerad how we could justify being out of money for the only program that really works the way the one you have proposed works, because the TAA program—while you are proposing to consolidate Title III and TAA into this new approach—the TAA program actually is closer—now that you have explained your program in detail—it is actually closer to TAA than it is to Title III.

My question is, why can you not support $30 million for TAA training for the rest of this year? Everybody is out of money. It is the program you say in principle you support, it is what you are proposing the Congress to enact. Why cannot we get $30 million?

Secretary BROCK. I think there is a sufficient concern with the Congressional budget process, the whole fight we are going to have on Gramm-Rudman, the maintenance of the——

Senator HEINZ. On $30 million? That is an asterisk. We do not count it.

Secretary BROCK. I hear what you are saying. Dave Stockman used to tell me when I was the USTR. He said, do not worry about it, you do not even make my computer. And we did not. He screwed me up anyway. But that is all right. That was a different issue. [Laughter.]

I am not trying to argue with you. I am just suggesting that it has been difficult to——

Senator HEINZ. Could it be that the Administration's position is not very meritorious?

Secretary BROCK. Oh, I would never, never——

Senator HENIZ. You would never say that, as they say?

Secretary BROCK. No, I cannot——

Senator HEINZ. Read my lips. [Laughter.]

Since I think I have gotten all the answer I am going to get on that, and I am sorry you cannot do better than that. I really am sorry, because I think you know in your heart of hearts the Administration's position, regardless of how justified, it is not defensible to be arguing for hundreds of millions of dollars for next year and saying, sorry, the one program that is like it this year, to hell with it.

I am not saying you say that. I am just saying that is how it comes off to the people who are being cut off from training.

Secretary BROCK. I am sympathetic, but you have got to understand that when we talk to Congress about small amounts, those amounts tend to grow very fast.

Senator HEINZ. But if we give you $30 million you will not gripe? You are not asking for it, but if it is given to you, you will not object to it.

Secretary BROCK. I always adhere to the law as passed by the Congress of the United States, Senator.

Senator HEINZ. Thank you for that answer. That was really helpful. [Laughter.]

I knew I should not have let you have any extra time to answer that question. No good would come of that.

Chairman GLENN. But will he recommend that the Administration accept it? That is different.

Senator HEINZ. Well, I think the Secretary understands the level of our concern, and that is important to me. I want to shift gears and go into another area, and that is the Unemployment Compensation taxes which industrial States now carry.

As you know, States under current law, if they have an outstanding debt to the Unemployment Trust Fund, they lose FUTA credits. In my home State of Pennsylvania we are up to a net tax of about 1.8 percent, very steep. I think that the lowest tax is about either .3 or .7. I forget what it is in most States. There is a very big difference though when you have an entire 1 percent or 1.5 percent extra in the way of payroll tax.

Mr. Chairman, this question affects both Ohio and Pennsylvania, by the way. The way the current law works is a State has to pay that higher level of tax entirely through the year—even though it may pay off its debt, say at the beginning of that year.

In Pennsylvania we will be out of debt to you in 1989. In Ohio they will be out of debt either late this year or next. In our State, current law will force us to pay in at the higher rate all year and at the end of 1989 we will have a surplus with you of $200 million that comes from our employers in our State.

We are about 5 percent of the population of the United States and $200 million is everything we spend on Title III of JTPA nationally in the other 49 States plus Pennsylvania. So $200 million to our State, to our employers, is a lot of money. I mean, we can talk about doing something about training or retraining. That is 20 times as much money as we now get, 20 times.

My question to you is, Mr. Secretary, would you be willing to support changes to help address this problem so we do not end up being net creditors of the Federal Government at a time when we need that money to do other things with it?

Secretary BROCK. I personally am sympathetic. I do not know whether there is some problem that I am unaware of that I would have to find out about, but let me find out about that. I cannot imagine that it would be a difficult thing to do.

Senator HEINZ. I think the law comes from a time, Mr. Secretary, when you were not dealing in these large amounts of money and nobody really anticipated it getting into this big a bind. So I would appreciate your looking into that.

Mr. Chairman, I thank you. My time has expired.

Chairman GLENN. Thank you, Senator Heinz. I know we are almost to the time when we guaranteed you would be out of here, but there are a couple of things that I do have to get you on record here, if we could keep this as short and straight to the point as we possibly can.

S. 489 proposes to elevate interagency trade policy by abolishing the current Trade Policy Council headed by the USTR and creating in its place a national trade council which would be headed by the President. As a former USTR are you in favor of that proposal?

Secretary BROCK. I am not sufficiently familiar with it to give you a precise answer, but anything that strengthens the process and involves the White House more directly I think would be helpful. I am not sure that that is something we can do by law. It really takes the interest and involvement of the President, period.

Chairman GLENN. Could you look at that and give us an answer for the record? We will submit that to you.[1]

Secretary BROCK. Sure.

Chairman GLENN. Again I would like to draw on your experience as an USTR. Are you satisfied with the quality of our Government's data on international trade and investment or where would you suggest we make improvements?

Secretary BROCK. I would like to give you a fuller answer for the record, if I may. But I think our data is generally pretty good on goods. We have a tough time tracking intangibles, services and exchanges of that sort.

Chairman GLENN. S. 489, for instance, proposes creation of a national trade data bank. Is that a good proposal?

Secretary BROCK. I would like to look at it and think about that.

Chairman GLENN. Good. We would appreciate your answer to that also.

S. 374 calls for upgrading the quality and scope of the Employment Services Job Data Bank. Are you in favor of that?

Mr. SEMERAD. Senator, our experience is that the labor market exchange in America really is community, State and regional at the most; it is not Federal. Investing a lot of money in Federal data banks, although there are still efforts on the books to do that, is not a very productive use of the money, from our experience.

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[1] See p. 388 for Secretary Brock's responses to written questions submitted by Chairman Glenn and Senator Bingaman.

Chairman GLENN. Okay. You have had a wide range of professional experience in the area of business, labor and Government. In your testimony you note that through the PICs, the Private and Industry Councils, an important partnership between the private sector and Government has been created for administering State and local labor exchanges and other activities of the Employment Service.

In S. 374 there is a proposal to create at the Federal level a Council on Industrial Competitiveness which would bring together business, Government and labor to advise the President and Congress on a broad array of competitiveness problems. Do you favor the creation of such a group?

Secretary BROCK. Well, we have got some of those. We have got the President's Export Council. We have got the Advisory Committee on Trade Negotiations. I would like to see where it is different. I am not sure that it would not be redundant.

Chairman GLENN. All right. Could you answer that one for the record also?

Secretary BROCK. Sure.

Chairman GLENN. We will submit a list of these to you, if you would, please.

Secretary BROCK. Fine.

Chairman GLENN. In S. 489 we propose trade impact statements. Do you prepare and disseminate analysis of the direct and indirect effect of your Department's actions on competitiveness and trade to other Government departments or to private industry?

Secretary BROCK. No, but we probably should give that some thought. That is not a bad suggestion, if it is workable.

Chairman GLENN. That is another one we would like to have a more detailed statement on if you could, after you have a chance to look at that.

Secretary BROCK. All right.

Chairman GLENN. Just one last statement before I see if Senator Bingaman has a last question or two here.

We were talking a minute ago when Senator Heinz was here about the job retraining and the adequacy of money. Displaced workers need income support more than anything else, and UI—unemployment insurance—is the usual source.

The Wall Street Journal reported last week that the percentage of jobless Americans receiving UI benefits in 1986 dropped to the lowest level in the programs 52 year history with fewer than 1 out of every 3 unemployed workers collecting benefits in an average month. In my home State of Ohio, I might note, that on average only 28 percent of the unemployed workers received UI benefits in 1986.

Is it not time we took a new look at that system?

Secretary BROCK. Yes, sir.

Chairman GLENN. Do you think that performance is adequate regarding unemployment insurance when it is covering so few people really in need?

Secretary BROCK. Well, I think it is consonant with the present approach but I think what we are suggesting is that there is a reason to take a long look at this and to do so within the context of the circumstance of each State. It does not make much sense to try to approach it from a national issue when the regional disparities are so enormous in this country.

What we are suggesting is that let's give that responsibility and the funds—or the authority to raise those funds—to the States.

Chairman **Glenn**. We have looked at worker displacement in the past as sort of a transitory thing when industry is down but it is coming back up. Now we find whole industries going up and down, into fruition, out of existence, bankrupt, or whole new ones springing up.

As you have pointed out, we are in the fastest changing economic time of our history and that is going to continue. It is going to accelerate, not go back. And so I think we have to take a whole look at that system and that will undoubtedly be the subject of some other hearings.

Senator Bingaman, do you have a last question or two?

Senator **Bingaman**. I know the Secretary has other commitments. I appreciate him being here.

Chairman **Glenn**. Thank you very much, and we do appreciate you being here and it was a pleasure to have you back at the Committee again where you spent long hours in this room before, as a matter of fact.

Secretary **Brock**. It was nice to be with you.

Chairman **Glenn**. We appreciate both of you being here this morning and we will have a list of questions and we would appreciate your comments on those and the record will be kept open until we receive those. We hope those replies could be expeditious.

Secretary **Brock**. We will do the best we can. Thank you, Mr. Chairman.

Chairman **Glenn**. Thank you very much.

Our next witness is the Honorable Allen Wallis, Under Secretary for Economic Affairs, Department of State, and Mr. Doug McMinn, Assistant Secretary for Economic and Business Affairs.

We appreciate both of you gentlemen being here this morning and look forward to any statement you have, Mr. Wallis.

TESTIMONY OF HON. ALLEN WALLIS, UNDER SECRETARY FOR ECONOMIC AFFAIRS, DEPARTMENT OF STATE,[1] ACCOMPANIED BY DOUGLAS McMINN, ASSISTANT SECRETARY FOR ECONOMIC AND BUSINESS AFFAIRS

Mr. **Wallis**. Thank you. I do have a brief statement I would like to make.

I want to thank you for the invitation to come here today to discuss the issue of U.S. industrial competitiveness. Secretaries Baker, Baldrige and Brock have preceded me and they have discussed in some detail the President's competitiveness initiative.

Secretary Baker's testimony in particular contained an impressive elaboration of that part of the President's program which deals with the international economic environment.

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[1] See p. 394 for Mr. Wallis' prepared statement.

I will not try to repeat what has already been said so well by others.

First, I should state the fact, even though it is obvious, that international economic policy cannot be separated from domestic economic policy. In fact, your hearings today, if I understand your purpose correctly, arise from that inseparability.

Our competitiveness in world trade depends on the efficiency of our domestic economy and it is concern for our trade deficit that is driving the President's and the Congress' intense interest in competitiveness.

The inseparability of international from domestic economics means that the State Department has a deep involvement in economic policy, but there is a more fundamental reason for State's concern with economic policy. Protecting and enhancing the security of the United States depends first and foremost on the strength of our economy. The strength of our economy in turn depends increasingly on international trade, as does the strength of our friends and allies throughout the world.

International trade has not only direct, positive effects on our economic well-being, but also indirect effects through the political, business and personal relations by which trade is carried out. We should spare no effort to counter the growing notion that the United States loses from international trade. We benefit greatly, both economically and politically. Our efforts should therefore be centered on opening markets here and abroad to expand our trading relations with other nations.

Politically, we collaborate with other countries in such international economic organizations as the Organization for Economic Cooperation and Development, the International Energy Agency, the General Agreement on Tariffs and Trade, the International Monetary Fund, the International Bank for Reconstruction and Development, and the regional development banks, and many organizations dealing with such specific activities as telecommunications, copyrights and patents, aviation, and individual commodities like coffee, copper, timber, jute and rubber.

Also, we have comprehensive economic consultations led by the State Department approximately once a year with the ASEAN countries, with the European Community, Korea, Pakistan, India and Turkey, twice a year with Japan and Israel, and 4 times a year with Canada.

Relations of our business firms with foreign countries increasingly involve not only traditional buying, selling and investing here and abroad but also joint ventures, licensing, and other cooperative arrangements.

The personal relations that accompany economic relations between governments and companies or that arise from the professional or business activities of individuals have as a byproduct enlarged understanding among the people of different countries.

Since this Committee is concerned with Government's structure, let me take a moment to sketch the organization of economic affairs in the Department of State.

Both the Secretary and the Deputy Secretary spend a great deal of time on economic issues. And then, I am one of three Under Secretaries who deal with substantive areas, mine being economic affairs and agriculture. One of the largest of the functional bureaus in the Department is the Bureau of Economic and Business Affairs, headed by Assistant Secretary Douglas McMinn, here on my right.

In addition, there are people dealing with economic issues in each of the regional bureaus of the Department, in the Bureau of Intelligence and Research, in the Policy Planning Staff, and in every Embassy overseas.

Within the Government, State is represented on the National Security Council, the Economic Policy Council, the Domestic Policy Council, and various subcabinet councils and committees, and there are regular meetings involving the Secretary with other cabinet officers who deal with economics. At the staff level there are almost continuous contacts with innumerable other economic agencies and with the private sector.

Under the direction of Secretary Schultz, we have made considerable progress in improving the economic function at State and in the foreign service in general. I might say that Assistant Secretary McMinn deserves a very large part of the credit for that progress.

Economic issues are a top priority at all of our Embassies. They have to be. The economies of Western Europe and Japan are in good shape. Our growth over the past 6 years has exceeded that of most other developed nations. Our record of job creation has been unequaled.

In our concern over the competition of Japanese industries we should keep in mind that there are great inefficiencies in the Japanese economy. American labor is still among the most productive in the world and American management is second to none and it is emulated throughout the world.

There has been a tendency recently to equate the large trade deficit with a lack of competitiveness. That is not the whole picture. There are a number of causes of our trade deficit and they stem more from the strength of our economy than from its weakness.

The causes of our trade deficit are to be found in macroeconomics, not in the problems of individual industries. The deficit in the current balance of payments, which includes the trade balance, is equal to a surplus on the capital account. The causation between current and capital accounts can run in either direction, or in both directions. A trade deficit can emerge simply because there is a net inflow of foreign capital. There is strong evidence that that is one of the primary causes of the current U.S. trade deficit.

In the United States during the past several years the attractiveness of investment has been greatly enhanced by our robust recovery, by a sharp reduction in inflation, by a favorable tax climate, a reduction of regulations and free-market policy. Abroad, investment climates have not been so favorable. In the United States a large part of our private saving—none too plentiful to being with—is absorbed in large Government expenditures.

Now, all of those factors have produced a strong net capital inflow into the United States and that inflow has caused demand for dollars and thus increased the dollar's value. The dollar's appreciation through early 1985 greatly weakened the competitive position of U.S. producers.

The subsequent decline in the value of the dollar has already substantially improved our competitive position. Appropriate macroeconomic policies here and abroad can greatly assist the adjustment process. The most important way in which our Government can help that process is by continuing to cut its expenditures, thereby freeing domestic savings for productive investment.

It is worth taking a moment for a closer look at the relation between the trade deficit and competitiveness. The fact that we have a trade deficit does not mean that the United States is losing its competitiveness. It is not a sign of economic weakness. Total output in the U.S. and output per capita are both higher now than in 1982 when we last had a trade surplus.

We do not have a trade deficit because we produce too little. We have a trade deficit because despite our great output we consume and invest even more than we produce. The willingness, even eagerness, of foreigners to invest in U.S. assets is a sign of the strength of the U.S. economy. We should not, therefore, try to develop a host of new Government programs to cure a trade deficit which will, with proper Government and business leadership, right itself.

One of the most important functions of Government is to insure that our businesses have an open market at home and abroad in which they have full opportunities to compete. That means that our Government should strive to reduce unfair trade practices and barriers to trade and investment that inhibit economic activity and harm our most competitive industries.

We must work to open foreign markets rather than close our own, and we must encourage other nations to follow policies which enhance economic activity. This means remove unnecessary rigidities, lower taxes, stop protecting non-competitive industries, and reduce Government interference in the marketplace.

If Europe, Japan, and other nations adopt sound policies there will be greater opportunities for United States exports; there will be less need for nations such as Japan and Germany to rely on export industries to fuel their economic growth; there will be new markets for developing countries which would relieve their debt burdens and make them once again major customers for U.S. exports; and there will be more incentives to invest in those countries. Some of the steps we are taking in that regard are well known to you.

First is the launching of a global trade round which will encompass critical new areas, such as services, agriculture, intellectual property and investment. There is no more important initiative. Another is the negotiation of a free trade area with Canada.

In addition, there is the closer coordination on economic policies with the other major economic powers resulting from the Tokyo Summit and the Plaza and Paris meetings. In that context, we also have an ongoing dialogue with the Japanese on structural reform, which I chair for the U.S. side.

There is also our strategy to address the debt problems of the developing countries, and there is our commitment to address aggressively cases of unfair trading practices so that our companies will be able to compete fairly in the United States and in foreign markets.

Finally, we are streamlining our export control procedures, trimming the list of controlled items, accelerating processing, improving international cooperation; all of which is designed to help U.S. companies export while maintaining effective control of the transfer of strategic goods and technology to our adversaries.

All of those policies, accompanied by reduction of Government spending, should expand our exports and cut our trade deficit. We ought not to erect protective barriers around our industries. Our businesses are willing and they are able to compete. Government should do whatever it can to create an environment domestically and internationally in which they can do so successfully.

In closing, I want to underscore the importance of keeping markets open and of opening markets abroad. International competition forces enterprises to compete by improving production techniques, cutting costs and developing new products and marketing strategies. Closing markets would simply make our companies less efficient and less competitive and would require more and more protection at greater and greater cost to our economy.

Overall, international trade strengthens our economy, and the economies of our trading partners also, by promoting the more efficient and more productive. That is why it is vital that the Uruguay round of trade negotiations should be successful.

The alternative, closing our markets, would be disastrous. It would quickly lead the world back to the protectionist era that followed the Smoot-Hawley tariff of 1930. After that, you recall, trade virtually stopped and economic growth dropped precipitously. The result was a massive global depression which was followed by a world war. If we are going to learn anything from that experience it has to be that protectionism as a policy is certainly not the answer.

Thank you, Mr. Chairman.

Chairman GLENN. Thank you, Mr. Wallis.

Senator Bingaman has some other commitments shortly so we will let him start off with questions.

Senator BINGAMAN. Thank you very much, Mr. Chairman.

Mr. Wallis, you say our Government needs to strive to reduce unfair trade practices. The dollar/yen relationship has changed dramatically in the last two years and continues to change, but our currency seems to remain pretty much pegged to the currencies of some of our other trading partners, such as Korea, Taiwan, and Canada.

Is that an unfair trade practice that those Governments are engaging in by refusing to let their currencies adjust or float?

Mr. WALLIS. Let me say first that you have made a very good point that gets overlooked a lot of the time in talking about exchange rates; namely. that there is enormous variation. And again, in some countries we have had a big drop in the dollar and against other currencies essentially none. And the ones you mentioned, Korea, Taiwan and—Hong Kong, you did not mention—and Canada are the ones where the dollar has not dropped very much.

I believe that the explanations are different in each of those cases. In some of them we definitely are checking into whether it is not due to deliberate Government policies to keep their currencies down for competitive reasons. I would have to say, obviously, we would not be looking into that if we did not have some suspicions that they are.

Senator **Bingaman**. Is there any other explanation? I have never heard one offered for the fact that their currencies remain in relative parity with what ours was a couple of years ago, except that it is conscious Government policy to keep it there.

Mr. **Wallis**. Well, there may be other explanations. I must say we have been so focused on the idea that they are rigging it so we have not really looked for alibis for them, and they have not offered any very convincing ones.

The only one I could think of, if I pushed to find an alibi for them, would be in the case of Taiwan. They have an interest in behaving like the old fashioned mercantilist who believed that if they had a huge hoard of gold it would help them if they got into a war. I think the Taiwanese probably think that if they have an enormous bank of foreign reserves, that could be useful to them if they were attacked.

Senator **Bingaman**. It would be useful to us too.

Mr. **Wallis**. Well, that is where they would spend it, of course, would be here, predominantly.

Senator **Bingaman**. What can we do to solve that problem? It seems to be a problem that just continues. I hear that it is a concern of the Administration but I do not see any action being taken to really force a solution. Is there some action we can take?

Mr. **Wallis**. First let me say—I want to make two points—the lead on that is in the hands of the Treasury.

We actually are in close touch with them. Our Secretary and their Secretary, and me and some of their staff and Mr. McMinn actually had some discussions of that just yesterday.

So exactly what we can do—one of the most important things for us to do—is to keep quiet about what we are doing. The whole subject of foreign exchange markets, discussing the issue publicly, blows you out of the water in no time. So I just do not want you to think we are doing nothing, but on the other hand I am not——

Senator **Bingaman**. You are suggesting that if we are too open in our discussions the dollar relationship to these currencies could worsen even more?

Mr. **Wallis**. Well, I am suggesting we would find it harder to deal with them and to make our points with them and so on.

Senator **Bingaman**. You indicated that you chair the U.S. side of the ongoing dialog with the Japanese on structural reform.

Mr. **Wallis**. Yes.

Senator **Bingaman**. Could you be specific as to what reforms we are urging them to take and what we are providing in the way of inducements for them to do so or threats if they do not?

Mr. **Wallis**. Well, we are not carrying this on either through inducements or threats. We are carrying it on on the theory that we both have an interest in achieving the same thing.

Let me start by telling you one thing that may startle you. The Japanese economy is extremely inefficient. That is startling because, of course, we see the little bits of it, relatively small parts of it, that are efficient.

We see the effects of their automobile industry and their camera industry and generally their electronics industry. All of their basic industries are in a state of depression and are classified by them as depressed industries and get doles from the Government and are allowed to form cartels. There is a list of some 22 of those; steel, aluminum, chemicals, cement, lumber——

Senator BINGAMAN. But their idea of a depressed industry is when unemployment gets up to 3 percent, right?

Mr. WALLIS. Their measurement of unemployment is rather different than ours, and roughly speaking, runs about half what ours does. When they are at 3 percent it is comparable to us being at 6 percent.

And there are other factors there such as their institutional arrangement by which unemployed workers are still kept on the payroll of the employer, and so on, rather than going through a Government unemployment insurance scheme. At any rate, they have this very extensive inefficiency in their economy.

Their distribution system is incredible. Their actual standard of living relative to the figures on the per capita income is really shocking. Far less than half of the housing units in Tokyo are connected to a sewer, for example. And a lot of this—almost all of this—is due to unsound economic policies. They subsidize and support agriculture excessively. The price of rice is about 7 to 10 times in Japan what it is in the rest of the world, and rice is a staple in their diet.

Beyond that, it makes land values very high and crowds the urban areas, so that people there can hardly afford to buy a house. Their credit arrangements for getting a mortgage are such that if you want to buy a house, basically, you have got to lay down cash on the barrel head to buy a house, so people do that about at retiring age.

There are just innumerable things there in their financial arrangements—their arrangements to artificially stimulate saving and artificially reduce consumption—which make their economy extremely inefficient.

Now, the reason we are concerned about that is that a consequence of that is that they have a very high rate of savings and they do not have good places to invest it in Japan and so they send it abroad, and that creates a trade surplus for them and a trade deficit for us. And so that is a rather direct attack on the trade deficit problem with Japan.

Senator BINGAMAN. Are there some concrete steps we are urging them to take—or we have urged them to take—as part of this negotiation. Have they taken any of them?

Mr. WALLIS. The way we work with them on this—you know, it is not easy to get another sovereign country into this kind of discussion—and we got into it by saying we will not push you specifically, we will just try to explore with you what you could do to make your economy more efficient.

Now, on their side, however, they have done some things like that. They had this Miyakawa report about a year ago. I guess it came out just about March last year. It does recommend quite a number of major structural changes of the very sort we are trying to persuade them to carry out. And they have begun to do some of those.

There are things that will be very difficult for them to do. They call for really drastic changes in their economic organization, and like us they have locked-in vested interests, many of which have strong political ties. So it is difficult, but they are doing it. They are moving, for example, to cut down drastically on coal production, which is very wasteful there. They can import coal from a lot of places, including us, at a much better rate than they can produce it.

So, if they carried out the recommendations in the Miyakawa report they would be at it for 5 years at least, and maybe 10. But at least it is a very constructive sign on structural adjustments.

Senator **Bingaman**. It is constructive that they issued the report. Do you hold out much hope that they will actually carry through on the recommendations of the report?

Mr. **Wallis**. Yes, I do. As I say, some of them they have already started to do. I think that the LDP adopted the report, officially approved it.

Initially it was simply a private report that the Prime Minister had commissioned, and as recently as when he visited with the President last April, I think it was, he told the President, I have to tell you, this is just my idea right now, the Commission report is out but I do not have official support for it.

But within a couple of weeks he did have official support for it. I think a lot of that will be done. I will tell you, the main reason I think that is not because of any commitments to us but because it is so much to their advantage.

Senator **Bingaman**. Thank you very much, Mr. Chairman. I appreciate being allowed to ask my questions.

Chairman **Glenn**. Thank you, Senator Bingaman.

Mr. Wallis, in your statement you say: "The President's plan lays out very well a comprehensive program for Government action to improve competitiveness. The program is good for America. It is essentially a program to increase our efficiency."

How does it do that?

Mr. **Wallis**. Well, almost all of the things in it are aimed at that. The sort of thing I heard you talking about with Secretary Brock, for example, on retraining labor which is displaced.

Incidentally, it doesn't matter whether it is displaced from imports or from domestic competition, once it is displaced it is going to waste and it needs to be retrained. That kind of thing will improve efficiency. And I have the list of the major topics.

In general, investing in human and intellectual capital, developing research, discover more basic science, but also work faster at applying it. And he proposes, for example, establishing a number of University centers which would work with industry in various areas. Incidentally, Columbus would be a prime target, but they have already got a good bit of that in Columbus.

Chairman **Glenn**. I am glad to hear that.

Mr. **Wallis**. Well, I am just saying that because I know something about Columbus. I do not know what the people in the Administration who would handle that have in mind.

Chairman **Glenn**. We are glad to take your commitment to put some of those funds in there on behalf of the Administration.

Mr. **Wallis**. Well, to the extent that I have that authority, which is zero, you have that commitment. But I am sure you will tend to that.

Chairman **Glenn**. We will be looking at it.

Mr. WALLIS. In addition to developing intellectual property—this is interrelated—it is protecting it. It is protecting patents and computer programs so the people have an incentive that having developed something, they will be able to get the benefits. And one of the reasons why the Government needs to support basic research is that on the whole the benefits of it may far exceed the costs, but they cannot be captured, generally, by the person that paid the cost.

So you have non-profit institutions like Battell or Ohio State or many other universities, Case-Western, and so on, doing that sort of work. The bill also provides for a number of reforms in laws that hamper efficiency.

Many of these laws that have been enacted in the last 20 years for very good purposes have, on the other hand, been overdone. Where they need to protect people against, say, one part in a million of something or other, they actually write the law to protect them against one part in 100 billion, and those need to be modified.

There are laws that delay the introduction of new products. As you know, the Food and Drug Administration right now is moving to increase some of the delays. There are a large number of things like that, including those affecting the international economic environment, such as our work with Japan on structural adjustment, the MOSS talks on removing specific barriers, and our work with other countries.

Japan, I might say, is not by any means the only country where we meet trade barriers. Not by a long shot.

Chairman GLENN. No. I would agree with that. Before you came in this morning, I made some comments just after Secretary Brock had finished his statement.

While I was critical of the last Administration, I am even more critical of this Administration in the area of education. I think this country became what it is largely because we out-educated any other nation. Education was for all of our citizens. It was not just for the kids in the castle or the politically advantaged or the wealthy kids.

And then we put more of our GNP back into basic research. We learned the new things first. And out of that, with an educated citizenry, we formed new businesses and jobs and employment and we dominated the whole world. And we did it in a historically tiny timeframe and it was not all because we had "fruited plain and purple mountain majesties" and all the things we sing about. It was because of those two basic things, education and research.

And when this Administration came in they cut the funds for higher education and cut the funds for basic research. They proposed cutting some 29 percent out of basic research. Now, Congress short-stopped some of that so the entire 29 percent cut did not occur. And since then we hear a great trumpeting every time there is a 3 to 5 percent increase in basic research which is getting us back—and I guess we are back to where we were, maybe, and maybe a little past—where we were at the beginning of this Administration.

Now we find ourselves with a $19 billion budget for the Education Department cut to $14 billion, over a 25 percent cut. And granted we are doing some things in technology now, but the President was very fond of saying through the first several years of the Administration that in research, if it was worth doing, private industry will do it.

That is flat patent nonsense. That has not been where most of the basic, the Nobel Laureate breakthrough research has come from in this country. Fortunately we have had a few companies like Bell Labs, AT&T, Monsanto, Dupont, 3M, and TRW to put the long term research money in the 8 to 10, 12, 15 year programs.

But that is not the rule in business and industry, and most of the long term programs in basic research have been at Government labs or have been Government programs supporting that kind of research at colleges and universities.

We did a study several years ago out of my office, and questionnaires were sent to the Nobel Laureates, and their overwhelming response—I think it was 86 or 87 percent, something like that—was that without Federal Government support they would not have been able to do the research they did which led to their Nobel Laureate award.

I am glad to see the Administration getting a little bit concerned now about basic research. I hope it is an expansive mood that they are in because we desperately need it at a time when the Japanese, Germans, French, and others are beginning to target certain areas of research and are beginning to out-compete the United States of America.

That is just a portent of the future, I think, unless we do something about it. This Administration does not have a good track record in this area as far as I am concerned, and if their interest is there now it is a Johnny-come-lately interest. But I am, nevertheless, very, very glad to see it. So, I hope that is an expansion.

The morning paper has a headline which says: "Fear of Trade War Pummels the Markets." The worldwide economic community is feeling some shock waves over what is going on with our $300 million effort with Japan.

It was our understanding, from some of the things that have been in the paper and other conversations, that in the agreement to do this in the Economic Council, State was one of the last holdouts, that State really was not excited about going along with this and did not think this was necessarily a good move and resisted it; is that correct?

Mr. WALLIS. Well, I am not quite sure what you said, what you said we held out on.

Chairman GLENN. On agreeing. Was State a proponent or an opponent in the initial discussion of this trade sanction against Japan?

Mr. WALLIS. On the discussions of the sanctions, we were with that from the beginning. Our position was that an agreement was made—last August, I think it was—and had not been fulfilled. And in that sort of situation there is not much doubt or ambiguity about taking some kind of action.

As to the exact details of the action, we were not primarily responsible for that, though I believe that Mr. McMinn was kept fully informed on what the details of the action would be.

I think if you look at the details of it, they are rather astutely tailored. That is, they are calculated to hit the companies that make the semiconductors in Japan, but not to cut our semiconductors from our industry which needs them.

Also, it is targeted on industries where Japan has competitors, so that our consumers will be able to get microwave ovens from Korea or some other country. So, I think they are rather well designed by primarily USTR.

Chairman GLENN. Mr. McMinn, do you want to comment on that?

Mr. McMINN. Just a general comment, Mr. Chairman. As the State Department, we are often seen to have much more power in the interagency process than we actually do. I wish it were true. There are a variety of reasons for that.

But in this one I think Secretary Wallis has explained it. We are not in the midst of a trade war. We did follow through because a provision under the agreement was not implemented. We did it in a way which I think was reasoned and intelligent.

We are going to have further discussions with the Japanese. They have asked us for emergency consultations under the agreement and we will agree to that. So it is a very business-like process.

Mr. WALLIS. On your general point, that was an implication, which we pick up frequently, that the State Department is out there alone blocking things. I cannot remember any instance in the EPC where we have been alone.

We may or may not have always have been tune with the majority or with the view that prevailed, because the majority does not necessarily prevail in the EPC. The decisions are up to the President.

Chairman GLENN. Well, State was a proponent of this sanction, then, from the word go; is that correct?

Mr. WALLIS. When this subject came up, yes, of what to do about the fact that the agreement had not been honored. We were in line with the idea that something had to be done.

Chairman GLENN. I gather this one action in itself is certainly not intended to solve all of our problems with the trade deficits that we have. I gather it is more of a warning shot across the bow. I noted in the morning paper also that there are emergency consultations to occur in the next few days in Washington.

What can you tell us about that? Is this $300 million just a bargaining chip that we are about to use, or is this going to be the first of many such sanctions?

Mr. WALLIS. Well, as to what will happen in those consultations, we will not know until they get here. But every morning we get a summary of what the world press is saying, and on this subject it was very interesting to find that the only place where a lot of sympathetic reporting is going is Japan. The rest of the world is criticizing us in one way or another, the rest of the press.

The Japanese are attacking their Government and saying it should have been doing something about these issues sooner and that maybe they ought to do something about some other issues that we are making a noise about, like the Konsai Airport. Some of the press have mentioned that issue now, which is one that we have been pressing them on. Mobile telephones is a current hot issue with them. The trans-Pacific cable, participation in that.

Apparently in Japan it has had a rather different reaction than we get in the rest of the world, including the United States, where I would say the press has been generally critical. Incidentally, if it works out that way it is ideal.

Chairman GLENN. A lot of people believe that our competitiveness problems have arisen, in part at least, because of a lack of consensus among business, Government and labor as to just what our Nation's industrial strategy ought to be.

What are your reactions to the creation of a permanent Council on Industrial Competitiveness—which is proposed in one of the pieces of legislation that we have before us—that would be comprised of representatives of business, Government and labor?

It would be patterned somewhat after the President's Commission on Industrial Competitiveness that was headed by John Young. Would you favor the creation of such a permanent council on industrial competitiveness?

Mr. WALLIS. Well, I cannot really say whether I would favor that or not. The purpose is one, obviously, I should think everybody would favor. I would, anyway. Whether that is a good way to achieve it, I don't know.

I don't have a lot of confidence in achieving things by new organizations, and especially by whatever that would be, an independent agency. I don't know what its powers would be, and independent agencies generally are not very effective, with some exceptions. And also, they go through ups and downs over the course of time.

They are set up as an agency for some special mission. Fifty years later the mission is not there but the agency is. So I would have to think about that. But the purpose is clear and desirable.

Chairman GLENN. We have another piece of legislation, S. 489 before us, which also proposes a National Trade Council. It would elevate our interagency trade policy making apparatus. Have you had a chance to look at that?

Mr. WALLIS. I have looked at just a summary of it.

Chairman GLENN. We might want to submit a list of questions that I hope you can answer for the record so we could include them as part of it. We have, I think, six different pieces of legislation before us and in a hearing like this it is difficult to run through all the details of them, but we would like to submit those to you for your comment.

Mr. WALLIS. I could handle them better that way, anyway. I have them, but I do not have all the details in mind. Somebody gave me some notes on things to say, but if I could handle it that way I can figure out for myself what to say.

Mr. Chairman, you always have to check your wallet when Allen gives an answer like that. I always am a little concerned he has picked my pocket.

Chairman GLENN. Well, we will look at what response we get back and then find out whose pocket got picked, in that case.

As far as our foreign commercial service, we have a proposal in S. 374 to establish an Office of Technology Assessment within U.S. Embassies in countries that are our major foreign competitors in order to keep abreast of foreign technological developments. What would be your reaction to that kind of a proposal?

Mr. **Wallis**. We already have some 53 science and technology attaches in Embassies. We also have underway a program to upgrade that activity. The kind of thing we would like to do is recruit scientists from either other Federal agencies or from industry or from universities who would like to undertake an overseas assignment for 2 or 3 years.

The object would be to try to get scientists who have a certain amount of prestige as scientists and who, when they get overseas, will be welcomed by the country they went to and invited around to scientific meetings and seminars and be able to mingle with the scientific community there as equals, not as observers.

The Office of Naval Research has had some pretty good experience in that regard over the years, and we would like to be able to carry that further. Some of our attaches are very successful, but of the 53 I don't know how many would come in that category.

Chairman **Glenn**. Do you think there is a need to create tougher regulation on direct foreign investment in this country?

Mr. **Wallis**. I think that would really be very undesirable. That is how the county got built in the first place and I don't think we should stop building it. If they will bring their capital over here it makes our labor more productive and our natural resources more productive instead of theirs.

Chairman **Glenn**. Well, I would agree up to a point, but I think the reason we have had such an inflow of foreign capital has been, when interest rates were up there was obviously an attraction to come in here and it is lucky we had a lot of that investment come in, because otherwise that more of our own savings would have been sopped up that were going into other types of investments and we would have found ourselves in a worse fix.

What does concern a lot of us, though, is what happens if we reach a situation where a lot of this capital starts flowing back out again. That could put us on a toboggan slide that is not going to be very healthy.

Mr. **Wallis**. A lot of that capital cannot flow. A lot of it is in the form of factories and machinery or purchases of land and natural resources of one sort and another, urban real estate. You get the impression sometimes that midtown Manhattan all belongs to the Canadians. That is an exaggeration, but they are big there.

Chairman **Glenn**. That is very true, but a lot of it is liquid, also, that could flow out.

Mr. **Wallis**. The financial assets such as bank deposits or holdings of Government bonds, of course, there, if they—and they do hold a lot of our Treasury bonds—if they start pulling all of those out they will find they will not pull much. That is, the market would discourage them rather quickly. I don't think we are in hazard at all on that front.

Chairman **Glenn**. I would take slight exception to your comments on Japan. I know that Japan's living standard is not up to ours, certainly, but the trend in their living standard is certainly up at a much steeper rate than ours, albeit from a lower base. So I think the trends in that direction are something we cannot ignore, either.

You commented about the inefficiencies of their auto industry. I would only reply that compared to our own, they are so inefficient they have taken about a fourth of the market.

Mr. **Wallis**. I didn't say the auto industry was inefficient. I said that is one of the efficient ones. We see that and we think the whole economy must be like their camera industry, their auto industry, their electronics industries, or their wristwatch industries, and so on. But they are not.

The bulk or heavy part of their economy is inefficient. It is only these export areas that are efficient. No, the auto industry, I think, is very efficient and has had a major impact on ours.

Chairman **Glenn**. Well, I get very disturbed about the long term. As I said, when we see what they are doing with regard to education, kids out there in school 215 days a year—I have been in some of those schools—Europe, 205 days a year, our own system here, 185. We see cutbacks in support for education here.

I think we tend on Capitol Hill to work with exigencies of the moment here sometimes, and not with the long view of things. And the long view of things in the area of education and basic research is just not good.

I think the trends are, in fact, running against us. I think a lot of these competitors of ours are people who did not have enough—if you want to put it in terms of disposable national income—through the years to invest in education that much, and invest in research.

And now they do have some of those options and they are exercising them. Just at a time when we have cut back in some of these areas is the time when they are just pushing more into these areas. I think the portent of that for the future is not all that great.

Mr. **Wallis**. Well, Senator, I have been in education all my life. If they gave you any biography you probably saw that. I cannot really disagree with you except on one point. In fact, I would really underscore what you said about, particularly, primary and secondary education. I served on the National Council on Educational Research for a term some time back and that gave me quite a look at grade schools and high schools and it was anything but encouraging.

But I don't agree with what you said about research. I think when it comes to research the U.S. is so far in front of any other place in the world that there is just no comparison.

Chairman **Glenn**. I agree.

Mr. **Wallis**. They all pour in here. I recently had occasion to discover that at the National Institutes of Health at the present time there are over 1,000 Japanese working out there.

Chairman **Glenn**. I agree with you completely on the current status. We are still the font of knowledge for the rest of the world. But when you look at what is happening in doctoral degrees, and you look at what is happening in post-doctorals, where are they going? They are going to foreigners who come in here and get their education and go back home and are doing research over there.

I was appalled the other day to run across a figure which I have not yet checked and I have asked the staff to get some information on, but it said that only 36 percent of the high schools in this country have a physics department.

Mr. **Wallis**. I don't know about that, but I can believe it.

Chairman GLENN. Two-thirds of the high schools in this country don't even offer a blooming physics course. Now, maybe they are calling it something else, but it is just tragic and the portent for the future of that is just monstrous as to what happens.

Mr. WALLIS. I would venture to estimate that more than that have swimming pools, though.

Chairman GLENN. Well, they may well have. And that is another comment, too, as to whether we are out there for education or whether we are out there for the swimming team and the football team and all the self-realization courses that seem to have become ways of life in our country.

And I would not fight to take those out of our schools. I think they do a lot of good. But I think we cannot ignore the basics, either. The trends are that one of these days we are going to be out-competed in these areas unless we take some corrective action very soon.

Mr. WALLIS. Well, I agree that that is a major worry. Even among the kids we have a lot of extremely impressive people, high quality, but it is the question of what fraction of those who could meet those standards do meet them, and that is where the disappointment comes.

Chairman GLENN. Mr. Secretary, we will submit to you a list of questions that we just do not have time for here this morning. I appreciate very much both you and Mr. McMinn being here this morning and we appreciate your sticking with us here until almost the noon hour.

Thank you very much. We hope you can get the replies back so we can include them in the report expeditiously.

Mr. WALLIS. We will get them back within a few days of when we get the questions, so don't worry about that, and thank you very much.

Chairman GLENN. Thank you. The hearing will stand in recess subject to the call of the Chairman.

[Whereupon, at 11:57 a.m., the Committee was recessed to be reconvene subject to the call of the Chair.]

GOVERNMENT'S ROLE IN ECONOMIC COMPETITIVENESS

THURSDAY, APRIL 2, 1987

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 9:30 a.m., in room 342, Dirksen Senate Office Building, Hon. John Glenn, Chairman of the Committee, presiding.

Present: Senators Glenn, Roth, Bingaman, and Trible.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. The hearing will be in order. I would say before I make any further statement that we do have a bill on the floor there this morning that is liable to get voted on and I don't think Senator Bingaman or I are going to miss this vote—nor change our vote, either, I trust. So, this may be a rather truncated hearing this morning, but we will do the best we can.

I really have been looking forward to this particular hearing because I think we are of one mind with most of you on this. Our questions will only be on the best method of reaching that end.

We continue our set of 5 hearings on Competitiveness and Trade. While our three previous hearings on this topic have covered a wide range of issues, I think it is fair to say their focus has been generally economic in nature, and comparatively short term in nature.

Today we concentrate on two aspects of the competitiveness and trade problem that have tended to receive relatively less attention: Education and research science, and technology.

The relationship between our Nation's ability to compete in the world marketplace and the quantity and quality of resources we devote to education, research, science and technology just cannot be emphasized enough. Indeed, historically, our industrial strength has derived from our quest for knowledge and our perseverance in applying scientific discoveries to solve our most vexing technological challenges and problems. These talents, like other abilities and skills, as assets—albeit intangible ones—which, without sufficient investment, will erode over time. This is precisely what has been happening under the Reagan Presidency.

Given the diminishing attention we are paying to educating our young, it is not surprising that we are being out-competed in some areas by foreigners. A recent study by the National Science Board reported that only 35 percent of American high schools offer courses in physics. I read that just a couple of weeks ago and I asked the staff to check that one out, because I found that rather startling.

Only 35 percent of American high schools offer courses in physics. Japan and the European countries offer students a wider variety of advanced math and science courses than the United States. By 1995 the U.S. is going to need twice as many science teachers as we have today—twice as many—because of a large number of teachers leaving the profession. Of those teaching high school science, 30 percent of the instructors are reported to be unqualified in the field that they are teaching.

In the area of Federal policy toward industrial innovation, America is also falling behind. Our Government does not have a formally delineated national policy for innovation and high technology development. For all intents and purposes we may be the only major industrialized country which does not have such a policy and, quite frankly, our technology policy is rather ad hoc and uncoordinated.

Perhaps more important, while our country continues to be a leader in basic research relative to our major foreign competitors, our ability to transform discoveries into commercial products and processes is lagging. For example, while we are the acknowledge expert in robotics research, the Japanese have been quicker to apply new robotics technology to meet specific needs of the marketplace.

Today we do have a truly distinguished panel of experts before us to discuss these issues and I look forward to learning a great deal from them.

I am glad Senator Bingaman is here this morning. He has taken the lead in the area of trade and competitiveness and has proposed several pieces of legislation. He has also played a lead on this issue in the Democratic Party caucus by heading up the Group on International Trade and Competitiveness.

Senator Bingaman, are there any remarks you wish to make?

OPENING STATEMENT OF SENATOR BINGAMAN

Senator **Bingaman**. Thank you, Mr. Chairman. I do not have a speech to give here. I just will put a short opening statement in the record.

Chairman **Glenn**. Without objection, your statement will be made a part of the record.

[The statement of Senator Bingaman follows:]

Prepared Statement of Senator Bingaman

Thank you, Mr. Chairman. Today, as part of our continuing hearings, we turn our attention to the role of science and education in improving America's economic competitiveness. I would like to thank this distinguished panel for being here today. They are certainly well qualified to address the questions facing science and education.

Science and education play a large role in the economic competitiveness of this country. As Senator Glenn has so eloquently pointed out on numerious occasions, America's past economic development has been based on its educational system and the quality of science which that educational system has produced.

I agree completely with his concern that our educational and scientific system has been seriously harmed by this Administration's neglect and indifference. As Professor Michael Porter of the Harvard Business School pointed out in an earlier hearing, investment in human capital has dropped sharply during this Administration, and OMB estimates for future years are even lower. We must reverse this trend before irreparable damage is done. Education and science are the foundations of our economic strength. Once we lose that foundation, no amount of government action in any other area will help.

Last year the Senate Democratic Working Group on Economic Competitiveness made a number of recommendations to strengthen our scientific and educational system. I have re-introduced these recommendations in this Congress, as S. 374, which is before this Committee. I hope the panel will comment on these proposals.

I am also concerned over the lack of representation of science and education in the policymaking process. America can no longer afford a disjointed, ad-hoc response to economic problems. We can not continue to cut some programs, such as vocational education and teacher education, while increasing others, such as worker retraining. We must have a coordinated program, possible only through integrating the relevant portions of our science and education policy into an overall competitiveness policy. To do so, we must insure that science and education are represented at the highest policymaking level. I hope the members of this panel will address this issue as well.

Senator BINGAMAN. We have some superb witnesses here who have a great deal in insight into these issues and I will defer any further statements until we get to the questions so that we can go forward with their testimony.

Chairman GLENN. Senator Heinz has also submitted a statement for the record and that will be included at this point.

[The statement of Senator Heinz follows:]

OPENING STATEMENT OF SENATOR HEINZ

Mr. Chairman, once more we have an impressive witness list for our fourth hearing in this series on trade reform and organization. In particular I want to welcome John Brademas, and am glad that we will have his insights.

Education, innovation, and research and development are critical components of our international standing. For that reason I join with the chairman and other members of the committee who have voiced skepticism over continued reductions in education and research funding. Our investment in educational excellence is our primary means of insuring a better future for our children.

The administration, and Erich Bloch, Director of the NSF, deserve recognition for their new science and technology proposals. The National Science Foundation's budget proposal reflects a new initiative to provide 200 additional graduate fellowships, the establishment of university-based science and technology centers, and the improvement of specialized research such as geosciences and biotechnology. I believe the NSF proposals are an important step forward, and commend Mr. Bloch for his efforts.

We need to do far more to bring government, industry, and academia together in support of technology development and deployment. This involves much more than simply how much we spend on one or another program. It involves partnerships, and I hope my colleagues on the committee will consider the legislation before us as an opportunity to expand partnerships in education and technology development.

Chairman GLENN. Our witness list is indeed distinguished this morning. Going from my left to right here, the Honorable John Brademas, president of New York University and a former colleague in the Congress here. I think you were here, John, 22 years, so you have a long experience of things on Capitol Hill. He was known as "Mr. Education" while he was here, and then went on to be the President of New York University.

Mr. Erich Bloch, Director of the National Science Foundation, Dr. Jordan Baruch, President of Jordan Baruch Associates, and Admirable Bobby Inman, retired U.S. Navy, Chairman and Chief Executive Officer of Westmark Systems, Inc., who we have had before this Committee and other committees here many times. I know of no one that is more admired on Capitol Hill or whose words in the intelligence community in times past was looked at with greater respect than yours, Admiral.

So with that I guess we get on with our testimony this morning. I look forward to having discussion—not just questions from here—but discussion back and forth as you gentlemen comment on the statements of others this morning. So we welcome an abridged version of your statement to keep as much time for discussion as possible. In any event, your entire statements will be included in the record of the Committee. John, will you lead off?

TESTIMONY OF DR. JOHN BRADEMAS, PRESIDENT, NEW YORK UNIVERSITY [1]

Dr. BRADEMAS. Thank you, Mr. Chairman. Let me say what a great honor it is to be invited to appear before your Committee. As you have already indicated, I served as a member of the other body for 22 years and so I come before you today as one——

Chairman GLENN. They have to refer to us as the other body but here we just call them the House. We are straightforward about it.

Dr. BRADEMAS. Well, it is hard to get the instincts of parliamentary discourse out of one's blood.

It is, of course, a particularly personal pleasure for me to be here because, although my service was in the House of Representatives, I regard those years as among the most gratifying of my life, and I continue to take great pride in having contributed during that period to shaping the policies of our national government in support of education, the arts and other areas of American life.

I am, moreover, honored to appear today in such distinguished company. It would be difficult to find two persons more knowledgeable about the range of challenges—economic, scientific, national security—now facing our country than the Director of the National Science Foundation, Erich Bloch, and Admiral Bobby Inman.

For the past 5½ years, I have had the privilege of serving as president of New York University, one of the foremost urban universities in the Nation and with nearly 47,000 students, the largest private university in the world. I must tell you that as a result of my experience on the campus, I am even more convinced of the wisdom of the judgments that you and my other colleagues in Congress and I made over the last generation in forging policies to assist the colleges and universities of our country and the students who attend them.

As a former member of the House Education and Labor Committee and now as President of the largest private university in the world and one who sits on a number of boards, I devote some attention to issues of the economy.

I want to talk briefly this morning about the role of higher education in enhancing the competitiveness of our country, and here, to salute several distinguished members of this body, notably Senators Bingaman, Dodd, Kennedy, Pell, and Simon who have already begun to craft measures that speak directly to the issues we discuss today. I am confident that your Committee will give their proposals the most serious consideration.

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[1] See p. 404 for Dr. Brademas' prepared statement.

Here I note that I served recently on the National Commission on Jobs and Small Business convened by a bipartisan group of Senators and Congressmen, including Senator Nunn of this Committee. Our report, "Making America Work Again", was released in February. A few years ago I served on the bipartisan National Commission on Student Financial Assistance and chaired its Subcommittee on Graduate Education.

Both the National Commission on Jobs and Small Business and the National Commission on Student Financial Assistance argued eloquently for a more significant role for research and development, worker training and retraining, and education at every level to enhance the Nation's competitiveness, even as my colleague here today, Erich Bloch, the distinguished Director of the National Science Foundation, has made a similar case in a series of powerful speeches.

I refer also to a report entitled "A Renewed Partnership" issued by a Panel on the Health of U.S. Colleges and Universities, cochaired by David Packard, former Secretary of Defense, and Professor Allan Bromley of Yale.

All of these reports call for more attention to science, technology, and education, and I think it is particular significant that both Mr. Bloch—who will obviously speak for himself—and the White House panel argue strongly for a doubling of Federal support for basic research conducted at universities.

Given the evident importance of scholarship and research to our national competitiveness, I must say I am alarmed at current Federal policies affecting higher education. I cite only a few instances.

The Administration's budget for fiscal 1988 would chop student aid by a full 45 percent below the amount Congress voted for the current fiscal year even as the White House continues its campaign to kill all support for international studies and for graduate fellowships.

On the research and development front, the picture is mixed. The Administration seeks a substantial boost in the budget of the National Science Foundation, the result of Mr. Bloch's leadership. Nonetheless, the Administration urges cuts for the National Institutes of Health.

Although the Tax Reform Act signed into law last year represents major improvements in making the tax code fairer, the measure also contains provisions very damaging to colleges and universities and the students who attend them. Here I cite increased taxation of scholarships and fellowships; discontinuance of deductibility for interest on student loans; imposition of a $150 million ceiling per institution on access to tax exempt financing by private, but not public, colleges and universities; and disincentives to charitable giving.

Let me conclude this morning, Mr. Chairman, by raising several specific points to which I hope the Senate will give its attention. For if the Nation's colleges and universities are effectively to help prepare our country for the competitive challenges of the coming decades we must take several actions.

First, we must insure support to talented students who because of financial need might otherwise be denied a college education. Here I urge members of this Congress to follow the 98th and 99th

Congresses in resisting the Administration's attempts to cut student aid.

I hope also, Mr. Chairman, that in our justifiable preoccupation with competitiveness, we to turn our backs on the range of programs to support other worthy goals in our society that may not be directly related to the trade deficit or productivity. Here I think of measures to assure an opportunity for education to those likely to be excluded because of race, income, or physical handicap.

Second, we should strengthen the Nation's capacity for advanced training—graduate training—and research essential to producing experts in fields vital to our national interest. And here I allude, again, to the 1983 Report on Graduate Education of the National Commission on Student Financial Assistance, because our findings then are directly relevant to our discussion today.

Our Commission found severe shortages of scientists and engineers. We are also threatened with inadequacies in the numbers of doctoral-level scholars in other areas as promising undergraduates, faced with high costs, reduced financial aid and an uncertain employment outlook, avoid graduate school.

Despite these problems the Commission found a pattern of declining Federal support for graduate fellowships and research assistantships, and the Commission therefore called for a substantial increase in the number of science and engineering fellowships supported by the various Federal agencies, continued support for biomedical and behavioral scientists through the National Research Service Awards Program, and other additional fellowships for graduate students in the arts, humanities and social sciences.

As you know, Congress did act on the last recommendation in creating the Jacob Javits National Graduate Fellowship Program—which the President's budget for both 1987 and 1988 seeks to eliminate—and in reauthorizing the Higher Education Act Congress, establishing a new program of graduate assistance in areas of national need. Here I underscore the Commission's recommendations that programs to encourage graduate studies in the sciences and engineering give particular attention to women and minorities.

These several programs deserve your support, and I know that Senator Bingaman has made the creation of new graduate fellowships in science and engineering a key part of his competitiveness bill.

Let me turn to research. Continuing failure to maintain adequate support for university-based research will inevitably diminish the quality of preparation of graduate students as well as slow the flow of new discoveries from our campus classrooms and laboratories. Here are several points to be made about the research problem.

First—and here I quote from Mr. Bloch: "The United States has not invested in R&D in recent decades at the rate that sustained growth in a modern society requires."

Second, Federal support for basic and applied research at colleges and universities has obviously not kept pace either with research by industry in our country or abroad, or with the growth in research outlays by the Governments of major competitors. I note here that basic research now accounts for less than one percent of the total Federal budget of $1 trillion.

A third point: In recent years Federal research support earmarked for military purposes, as distinguished from civilian purposes, is high and rising. As a percentage of all Federal R&D spending, the defense share rose from 50 percent in 1980 to over 70 percent last year.

My recommendation here is therefore simple and straight forward: the Federal Government must increase R&D for civilian purposes, and this means substantially increasing the research budgets for the National Science Foundation as well as the Federal mission agencies. I believe Senator Bingaman has addressed the need for increased support of R&D in his bill.

There is another important component to the national R&D picture—tax policy. And here I urge the following steps on you as members of the Senate.

First, make permanent the new tax credit contained in the Tax Reform Act of 1986 to encourage private companies to finance basic research at universities.

Second, expand and make permanent the R&D tax credit established under the 1981 Economic Recovery Act.

Third, remove the $150 million cap on tax exempt bond issues by independent colleges and universities imposed by the Tax Reform Act of 1986, because this single provision not only threatens great harm to vital research programs of universities that necessarily rely on tax exempt bonds to build and renovate laboratories and research facilities, but draws an invidious distinction between private and public institutions that should not be enshrined in Federal statute.

Fourth, I urge reexamination of those provisions of the 1986 tax law that tax scholarships and fellowships and deny deductions for the interest paid on student loans.

Beyond increased support for student aid and research, a third arena of action is to rebuild the eroding physical infrastructure of colleges and universities to provide adequate libraries and modern laboratories and equipment. To replace and renew the physical plant of American colleges and universities will cost an estimated $10 to $20 billion. To meet this need, Federal assistance is essential.

I propose, Mr. Chairman and members of the Committee, consideration of a Facilities Modernization Fund, to be administered by the major Federal research agencies and departments and coordinated by NSF. Federal monies could be made contingent on non-Federal matching funds.

Here I draw your attention to a neglected but potentially important vehicle for Federal support, Title VII of the Higher Education Act. And I also here note a bill being developed by the House Committee on Education and Labor that seeks, among other purposes, to strengthen the Nation's research and training capacities through increased support of colleges and universities.

I want to say a word about that bill, however, because as presently designed, so I am told, the measure emphasizes the needs of institutions of learning that have not yet achieved consistently high levels of excellence in all areas.

While that is a laudable goal, I remind members of this Committee that at a time when the competitiveness challenge facing our country is so grave and immediate, we must attend to the vital infrastructure, both physical and intellectual, of those research and graduate institutions from which most of the innovations and discoveries have flowed.

We must also provide support for modernizing libraries, particularly through Title II-D of the Higher Education Act, which funds library networking and new technologies.

A fourth item on the agenda is to maintain at both undergraduate and graduate levels faculties of high quality. And here I will simply assert that point and allow my prepared statement to spell out what I mean, in more detail because I do want to turn now to a fifth area to which I fear not enough attention has been given, and that is the importance of expanding Federal support of international education and exchange programs.

The Language Training and Area Studies Program, Title VI of the Higher Education Act, supports research and instruction in modern foreign languages. This title supports university-based national resource centers, fellowships and independent research projects, as well as a small number of undergraduate programs.

I might mention here, Mr. Chairman, that I was the author of the 1966 International Education Act, which is the forerunner of the Title VI programs which I urge be expanded, and in this connection I salute the initiative introduced by your colleague, Senator Dodd, in calling for new centers for international business education to be based at universities and serve as regional resources for business.

Here I note that at the Graduate School Business Administration of New York University, we have created—and I think it is the only one in the country—a Center for Japan/U.S. Business and Economic Studies. If after all, we are going to be living on the same planet with each other, we ought to know more about every aspect of our economic relationship.

Sixth, we should devise ways of encouraging partnerships between and among business, Government, and institutions of learning to design the technologies and develop the skills necessary for a competitive America. I make two specific references here. One involves joint university/industry cooperative research efforts. And here I note that the National Science Foundation has undertaken such an initiative with its new Engineering Research Centers. Based at universities, these centers focus on problems of real interest to industry and include private sector employment.

This year NSF wants to expand this concept to fields such as biology, neuroscience, computer and materials research, and I heartily applaud this move. I also take this opportunity to cite the Council on Research and Technology, better known as CORETECH, a new consortium of universities, companies, higher education and trade associations, and research institutes formed to develop policies to bolster R&D, both academic and corporate.

The second area calling for cooperation between and among institutions of learning, Government and business is the retraining of workers who lose their jobs because of market changes or desire to learn new skills or enter new careers. And here I urge this Congress to make permanent existing individual exemptions for employer-financed education and training, now scheduled to expire this year.

A bill to accomplish this objective has been introduced by your colleague, Senator Moynihan, and I hope you will support his measure. More broadly, and as recommended in the report of the Commission on Jobs and Small Business, colleges and universities can assist local, State and regional efforts in economic development. Here I will refer you to the report, but I would draw particular attention to the proposal for technology transfer centers, which, I believe, is also included in Senator Bingaman's bill.

Finally, I urge that your Committee take steps to encourage excellence in American education, particularly in teaching. The country will need an estimated 1.3 million more school teachers in the next five years. Yet, the number of teacher graduates has substantially dropped and enrollment in teacher education is sharply declining.

Mr. Chairman, I am a child of the House and not the Senate, so I tried to speak as rapidly as possible. This testimony present's an outline of my proposals to restore American competitiveness. My written statement expands on many of the points I raise.

Thank you, Mr. Chairman, for this opportunity to appear before you.

Chairman GLENN. Thank you very much. We appreciate your statement very much.

Mr. Bloch.

TESTIMONY OF ERICH BLOCH, DIRECTOR, NATIONAL SCIENCE FOUNDATION[1]

Mr. BLOCH. Thank you, Mr. Chairman and Senator Bingaman. I appreciate the opportunity to be here this morning.

One of the questions that you posed, Mr. Chairman, asked how we should define the competitiveness problem. One answer is that it is important that we see the cause of it as the result of our own actions, or inactions, as the case might be, something that depends on what we do ourselves.

For too long we have tended to look elsewhere for causes, to unfair trade practices, or low wages in other countries, or unfavorable exchange rates. But the most important thing is simply to stay ahead of our competitors by creating ideas through basic research and turning them into high quality products and services in the world marketplace.

We did this very successfully in the past. The evidence is very striking. More than 40 percent of our productivity gains in the post-war decades came from new knowledge. Our competitors understand this also. Their high-value products are based on technology, new processes, new materials that did not exist as recently as 10 years ago.

Many forces must come together to achieve economic competitiveness. By far the most important, however, are new knowledge and well-educated people and the transfer of the new information to where it can be used, and the coupling. I mean coupling the user and the generator of that information.

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[1] See p. 427 for Mr. Bloch's prepared statement.

New knowledge through research is important because it provides ideas for new products and for process improvements to raise productivity in manufacturing and the service industries alike. Education is important because our most important resource is people. People come only through a long process of education.

For a scientist or an engineer, the process begins in junior high school and continues through undergraduate and graduate training—in all, a dozen years or more. The time necessary to educate scientists and engineers makes it imperative that a continuous flow of the most talented young students into science and engineering programs occur, and occur at all times.

Insuring that we have enough people requires conscious policy. We cannot depend on market demand, because the market fluctuates much too rapidly and universities cannot respond rapidly when demand goes up and produce surpluses when demands go down.

A competitive economy is one that can produce efficiently. This requires constant strong investment in people, equipment, and facilities. During the 1970's the United States neglected its research and engineering base while our trading partners increased theirs. As a consequence, the United States is now only fourth among the industrialized countries—after Japan, West Germany and France—in the fraction of gross national product invested in civilian research and development.

Too few of our students enter science and engineering, and too few of those who do continue to the Ph.D. That is not the way you stay competitive. Failure to invest adequately in R&D has far-reaching adverse consequences.

The main responsibility for maintaining economic competitiveness rests with the private sector. Government's role is generally limited to such matters as trade, taxation and antitrust—very important items, nevertheless.

But there is one area in which Government's role is very critical. That is the support of basic research and education. This is a long-term matter. Nothing we do here will produce quick results, but in the long term nothing else we can do will have surer results.

Where does NSF fit into this picture? Concern with the long term means concern with all parts of the science and engineering base. The Foundation is the only Federal agency with such broad responsibility for basic research and education. NSF encourages research on the boundaries between established disciplines where some of the most significant problems arise.

NSF supports mathematics, science and engineering education at all levels and in ways that link education and research in a symbiotic manner. NSF encourages cooperation between universities and industry and among Federal, State and local Governments.

NSF, finally, supports developing institutions and regions, undergraduate institutions, and broader participation by minorities and women.

Let me give you some examples that may make the point more directly what investing in basic research means. By its nature basic research cannot be planned. Not all projects deliver on their promises, and often the most significant insights come in unexpected ways. Nor can the technological or economic payoff be foreseen in many cases.

Nevertheless, history tells us that the payoffs are there and are often dramatic. Faraday's investigation of magnetic fields—at the time little more than a curiosity—led directly to the electric motor and the electric generator. This is an example from history. Let me give you a more recent example which has made headlines and even caused the introduction of a bill in Congress; namely, the new developments in superconductivity.

It is much in the news today. It is a phenomenon with a long history. In fact, it was discovered in 1911. For a long time the practical applications were limited because maintaining very low temperatures was expensive. But within the last month researchers in industrial laboratories and at universities here, in China, and in Europe—which shows the international nature of science, by the way—have demonstrated that superconductivity can exist at much higher temperatures, temperatures that can be achieved with inexpensive liquid nitrogen, or even at room temperatures, eventually.

Much of the work in this country was supported by the Foundation, I want to add. These discoveries may revolutionize electric power generation and distribution, transportation systems, and computing.

This is an example—and the example that I cited from history—of basic research having the potential of resulting in important new technologies. In order to make this happen, the universities and researchers must be brought in closer touch with industries that can apply new knowledge and products.

The hands-off attitudes over the last couple of decades between academia and industry is not what we need today. We need a much closer relationship between the two, and I hope that the start that has been made in that direction will continue.

Science and technology centers, which already have been mentioned by President Brademas, are one way to do this. And NSF is using some other approaches in addition. They all come down to the same thing. The researchers need to know how industry looks at problems and what industry sees as possible ways to advance.

Industry needs to know what university basic researchers are doing, what they consider important, what they consider possible. Both sides need to pool money, talent and equipment to work on interesting problems. And people need to flow both ways in a steady stream, because knowledge is most easily transferred not by laws and legislation but by personal interaction between people that work on a common problem.

Let me talk about competition and cooperation. It is a paradox of science and engineering, like it is a paradox of trade, I guess, that cooperation and competition co-exist. At one level we want our industry to compete aggressively, both domestically and internationally. But at the same time we encourage cooperation among our own industries, between industries and universities in this country, and between basic researchers here and abroad.

How can this work in a rational way? Part of that answer is that we are all better off if the progress of basic research is accelerated. Basic research is not a zero-sum game. Advances in one laboratory, one industry or one country can easily benefit many others, and the superconductivity example is one of those.

Because these advances are so dependent on stimulation and ideas that may come from anywhere, we must keep the pathways for this information open. The only caveat is that the flow must be even in both directions. In general, it is. Usually this happens naturally because basic researchers understand the need for open communication. They seek to know and they are proud to tell others of their accomplishments. Where constraints tend to limit communications we must negotiate specific agreements.

An example is the fifth generation computer project in Japan, a joint Government/industry/university project. NSF negotiated an agreement under which American scientists can spend lengthy periods in the principal Japanese laboratory that is concerned with this particular program. We need more agreement of this sort, especially with Japan.

The second part of the answer is that cooperation in basic research does not mean that competition in development, manufacturing and marketing is any less feasible. We have relaxed our antitrust laws to allow joint ventures in R&D. We have experience with organizations such as the Semiconductor Research Corporation and Admiral Inman's MCC Corporation.

NSF's Engineering Research Centers are supported cooperatively by groups of companies, States, and the Federal Government interested in particular lines of research. In all of these cases cooperative efforts to expand basic knowledge need natural and vigorous competition to develop and market the final product. This is as it should be.

The Engineering Research Centers and the Science and Technology Centers will be the first examples of what I am talking about. In 1988 we expect to establish additional Engineering Research Centers and Centers for Biotechnology, Materials Science, Computer and Information Sciences, and Social and Behavioral Sciences.

These Centers are located at universities. They are multi-disciplinary and are organized with strong industry involvement. They do basic research on problems that are important to science and important to competitiveness. The Centers are also part of our strategy for developing human resources. Of course, education is one of the very important components of the Centers.

Mr. Chairman, the President announced recently a major initiative which sets the United States on a quest for excellence. He said that our policies must serve three objectives.

One, they must generate new knowledge in science and technology. Second, they must swiftly transfer that knowledge to the marketplace. And third, speaking about education, they must expand our Nation's talent base in science and engineering.

These are worthy objectives that will be met only by a long-term commitment to strengthen our science and engineering base. Persistence, not quick fixes, can make us a more economically competitive society.

Thank you very much.

Chairman GLENN. Thank you, Mr. Bloch.

Mr. Baruch.

TESTIMONY OF DR. JORDAN J. BARUCH, PRESIDENT, JORDAN BARUCH ASSOCIATES [1]

Dr. BARUCH. Thank you, Mr. Chairman and members of the Committee.

I was impressed by your 3-page invitation today which was accompanied by 1,021 pages of bills. I am convinced that Senators do indeed earn their pay.

Let me introduce myself. While I was Assistant Secretary of Commerce during the Carter Administration, much of my life has been spent in 2 fields, information and education; particularly, information as it applied to business and education as it applies both to engineering and business.

I taught electrical engineering at MIT, business administration at both the Harvard Business School and at the Tuck School at Dartmouth. In business, I was a founder of Bolt Beranek and Newman, Inc. and a General Manager at G.E., and I serve on several corporate boards.

So my interest does span Government, academe and business.

I have also thought very hard about our problems of competition. As you may know, I led the President's review of technological innovation, which came up with many recommendations, about half of which were adopted by President Carter, and many of the others were adopted by the Reagan Administration.

I am very impressed by Mr. Bloch and Dr. Brademas' broad view and broad scope in their testimony. I don't have that broad a view and broad a scope and I may not be able to fill 10 minutes with my thoughts. But let me focus on 2 parts.

One is an information system for America in trade. Most of what the Federal Government does in getting industry to be innovative and competitive is to stimulate them. It provides incentives to accelerate their will to innovate. But we are having trouble at the present time, I am afraid, like many other developing countries, because of a lack of ability, not a lack of will.

In my written testimony I have a recommendation for a trade information system that goes along with Title IX of S. 338. It deals with 3 things. One is customer information, one is competitive information, and one is technological information.

Unfortunately, Title IX as it is written only calls on the Secretary of Trade, if there be one, to gather information from Federal employees. And, of course, the important information abroad is gathered by non-Federal employees. It is gathered by the businessmen and the shoppers; I think it is imperative that the Secretary have the resources and the facilities to debrief, on a voluntary basis, civilians coming from abroad to collect that information, coordinate it, and put it together in an information system so that our own companies get a real sense of what is wanted, what is needed, and the limitations on export capability.

As part of the reason I say this, let me tell you a story. When I was in Commerce I had a group of electrical manufacturers in my office and we were talking about exports. One of them who manufactured rather ordinary things like plugs and outlets was very proud of the fact that he was starting to export and he was targeting the large construction market in Brazil. He had just finished a long run of packages that had the instructions and the lettering on the packages done in Spanish. He was a little disturbed when I pointed out that the language in Brazil was Portuguese.

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[1] See p. 448 for Dr. Baruch's prepared statement.

We need help—very little of it at that basic a level—but we need help in understanding what our foreign markets are, our foreign competitors, and what the burgeoning foreign technology is that we can adopt in our own manufacturing.

Enough of that. It is well covered in my written testimony. What I really want to talk about today, even though my two colleagues here have already talked about it quite well, is education. I want to talk about it a little differently. I notice in the bills that we looked at that there is a great push for increasing the scope of education, bringing it to the reach of urban populations that might otherwise be denied it. These are laudable goals, but they are in large part, I believe, irrelevant to the problem of competition.

I would like to talk about the task that we have of educating the 99th percentile of the students entering high school, the 1 percent of students that represent our excellence, the 1 percent from which we are going to have to draw the stars that will start the new businesses and that will revitalize the old ones.

Now, I know that in our democratic society we tend to shy away from any elitist kind of education—and I approve of that caution—because frequently we fear the creation of a new aristocracy that will somehow lord it over us. But right now and for the foreseeable future we are going to need those excellent students.

Just think of what our industrial community would be like if one-third of the top 1 percent were to enter science, engineering and business, 15,000 of these people coming each year into our industrial community to start the new businesses we need, to revitalize the ones we already have. I won't get into how we select these people, but I would like to talk for a few minutes about how we might educate them.

First of all, recognize that I have said let's identify them as they enter secondary school, because it is in the high schools that enrichment programs will be necessary to get these kids geared up to use their full capability, geared up for competence and compassion, geared up for the ability to absorb a higher education at the rate that they can absorb it.

I would like to mention one NSF program that has been particularly important: the program for gifted students that is held during the summer time. There has been an NSF program in everything from archeology to zoology, where gifted students went to a university for a period of weeks.

Students who participated in this program became firmly enmeshed in that kind of a culture. They have friends that will last for the rest of their lives and they understand that field well enough so that when they got into college many of them excelled.

What other experience do we have? Well, we have experience enough so that we can now recognize the importance of computers in the educational system. I would like to see this 15,000 body of students own their own computers and have access to a network so they can share educational software and their own thoughts.

We do have gifted teachers both at the university level and at the high school level and I would like to see us get them involved not only with these students but with the task we are going to have of creating new teachers to tackle this particular group. We have some magnet schools in our urban areas but we are going to have to focus on how can we take that portion of the 1 percent in the rural areas and educate them.

When they graduate from high school I would like to make sure that we put them through the best universities and colleges that they can get into, and that means supporting them. I am not talking about student aid. I am talking about a national investment to make sure that they have the resources to get through. It is imperative to this country that those students go as fast and as far as they can.

Mr. Chairman, I can't address all of the questions involved in this task and I really don't know whether when these kids graduate from university and colleges, there will be the resources necessary for them to start new businesses and to grow them. My hope, however, is that they will have the urge to do it.

I expect these students to participate in cooperative programs in universities, so that a significant part of their year is spent in work and industry. They need to get their fingernails dirty, to find out what it is like to be in industry and to grow to respect that branch of our society.

I said I don't know if the resources will be available for these kids, whether there will be the capital necessary and so on, but I am firmly convinced that they will find it. People like this in our society, whether it is a Job or Woz off in a garage creating Apple, or it is INTEL, people like this find the capital, they find the capability, they invent, they create, they employ the tools that will make us competitive in the marketplace.

Mr. Chairman, thank you. I am sorry that I couldn't address all 1,021 pages that you sent me.

Chairman GLENN. Don't feel too bad. We have problems with that, too.

Dr. BARUCH. I am glad, however, for the opportunity to address one or two important questions. The important feeling I want to leave with you, however, is that while we are losing competitive position, we are not in a crisis. It is not a quick fix that we are looking for. It is a set of measures that are deliberate measures that will make us competitive and keep us that way for the long run of history.

I wish you good luck at it, thank you.

Chairman GLENN. Thank you very much, Dr. Baruch.

Admiral Inman?

TESTIMONY OF ADM. BOBBY INMAN (USN RET.), CHAIRMAN AND CHIEF EXECUTIVE OFFICER, WESTMARK SYSTEMS, INC.

Admiral INMAN. Mr. Chairman, first may I express my appreciation to you, to Senator Bingaman and Senator Trible for carving out the time to come to the session this morning. I know the demands that are there.

Secondly, Westmark is a brand new operation. I am trying to hold the cash flow down, as I told Senator Bingaman at a hearing last week, and therefore I don't yet have the mechanisms to prepare formal statements and deliver them in the normal say. My apologizes to the Committee.

You asked a series of questions and I will try to respond to those as directly as I can. But I would underline that I spent 31 years looking at the outside world. I have now had almost 5 years to look intensively at my own country.

Most of my focus is not on what we do to other countries but what we need to do for ourselves, to ourselves, to ensure that we can, in fact, compete at the reality of an international marketplace.

I was asked for a definition of competitiveness. I did some research. I finally decided I was willing to subscribe to the definition in the 1985 Presidential Commission on Industrial Competitiveness, quote: "Competitiveness is the degree to which a Nation under free and fair market conditions produces goods and services that meet the test of international markets while simultaneously maintaining and expanding the real incomes of its citizens."

Let us make no mistake, we are fundamentally talking about the standard of living of all U.S. citizens. Between July 1981 to July 1985 this economy did perform well in creating 8.8 million new jobs. But as I dug into those statistics I found that in fact the service industries had created 10.4 million jobs in that timeframe, which meant we lost 1.2 million in manufacturing, 400,000 in mining.

When I looked further, I found that the average weekly wage in those new jobs was $272. In the 1.6 million that were lost, it was $444 weekly.

The standard of living is already declining for a number of our citizens, and it is a direct result of this ability to compete. I would suggest several areas that must be focused on; productivity, technological innovation, human skill and motivation; timeliness of application of new technology; quality in products; relevance to ongoing changes and needs at the marketplace and dealing with the cost of change as well as the cost of production.

My response, after looking at these items, is that the Federal Government cannot do all of those. I am afraid many of them are going to have to be done by the private sector, others by State and local governments.

The issue, I believe then, that is before us here today is specifically what can the Senate Government Operations Committee do that will impact in a positive way on these needs.

Let me suggest to you the first one is the need for a coherent policy-making structure in the Federal Government to deal with the issues that impact on competitiveness. Out of these almost 5 years traveling all over the country all of the time, I find a pretty broad reluctance to see expansion of the Federal Government in its overall size or in specific roles. There really is a lot of public pressure to reduce the size of Government.

That has persuaded me that we have to look then at how do we more efficiently use what we already have, how can we make changes in that. Rather than simply looking at each problem, how do we go create a new institution, a new agency, a new organization.

We created a structure in 1947 to deal with our national security. We defined our national security interests as diplomacy and size and deployment of our armed forces. We added a little later foreign aid, and we finally added arms control.

We need to formally change the National Security Act to include international trade as one of the elements of national security and to require then that the structure must address those issues and create the policy mechanisms for weighing cost and effect, whether it is export control or how we make investment along the way.

Second, education is the front line of our ability to compete. I am absolutely certain of that, from these years of looking at the problem, and it ranges all the way from kindergarten through the 12th grade and perhaps preschool investment, all the way on through baccalaureate, graduate, continuing education, and training and retraining in the workplace.

Again, the Federal Government is not going to pay for all of that. The bulk of it is paid for by State and local governments and by private donations. So it seems to me the issue is how do we get the most out of the money that the Federal Government will spend?

I am persuaded that incentives play a major role here and that matching grants stimulate activity on the State and local level that ought to occur but don't always occur. I would suggest to you, where you can, setting up matching grant programs where you match grants that come from State and local governments and you match grants from the private sector as an area where you can get a lot more for the dollars that you put forth.

I think it is critically important that we expand the grants for graduate education, particularly in science and math, and the provision of equipment for those laboratories. I put that substantially ahead of broad investment in new facilities, even though there are clearly areas where those are needed.

We need to sustain programs that provide for broad availability of baccalaureate education, but there are a whole variety of programs that can do that. There are no substitutes for grants for attracting the brightest youngsters on to graduate programs, and I have seen that very directly in some private programs that were set up related to MCC.

Seven-hundred-fifty thousand a year for 10 years in grant aid for graduate students in computer science and electrical engineering at the University of Texas-Austin, was one of the elements attracting us. Everybody had told me that you couldn't get the bright young BSEEs and computer science graduates to go on to graduate school, that they would take that $26-to $28,000 starting salary in industry.

Well, the record is now clear. When an $18,000 a year grant is available, the brightest students in the country will apply and they are there with GRE's that are 200 points above those of the entering classes the year before. The answer is, they won't borrow money to go to graduate school, but if the grants are there the best will go.

If we look at the leadership that we have out there now, created during the period 1946 to 1962 or 1963, most of those were based on grants, and a large portion of those grants came from the Office of Naval Research and its counterparts.

We need to focus in education on the Federal Government's role on how do we create tools that can be broadly used. How do we get on with using computer-aided instruction to deal with both the remedial, the dropout problem, as well as accelerating the opportunities for the gifted and the talented.

The third point, funding and research, 2 different areas to attack. One, I support very strongly Dr. Brademas' approach for making the R&D tax credit permanent and taking it back to 25 percent. You can argue about how effectively it has been used, but the reality that we saw private industry substantially increase research investment in the 1982 recession for the first time in our history, that clearly demonstrates the long term contribution. It is part of creating incentives.

The other part of it is how do you get broader use of the money already being appropriated by the Government to expand this base of basic research activities? In the early 1960's we set out to try to more effectively use the funds being appropriated in defense. I must tell you I believe we brought great intellectual arrogance to that problem to believe that we could make early decisions on what basic research investments might have long term defense applications.

What you need to do now is to earmark a substantially larger portion of the Defense research budget for investment in basic research broadly available in universities and the private sector and to mandate that is will be administered with minimal bureaucracy.

We need to get away from this terrible waste of a 25 percent of a researcher or teacher's time being spent in preparing proposals and shopping them, and there are clear models to look back at in that period of the 1950's of how it was done, with some risks, but in fact, with much greater efficiency.

The fourth proposal for you, for the Senate Governmental Affairs Committee is to do a separate independent analysis of the Defense procurement process—and then once you have done that to look at those of the other branches—for a very specific purpose, to weigh the tradeoffs between efforts to avoid mistakes and the timeliness with which emerging technology gets used, both for weapons systems, but also its availability for commercialization.

Now, I believe we simply went down the wrong path. In heading toward trying to have perfection, we have now got a process that runs 12 to 13 years. It hasn't brought us perfection, but is has blocked the early availability of much of the research being funded there for commercial exploitation.

You 3 all happen to serve on the Senate Armed Services Committee, but I think an independent look by Government Operations where you can trade off, and frankly get a different set of witnesses, those who don't have so much at stake at sustaining a system that has been implanted and now so many jobs are dependent on it.

Shifting to the MCC experience, cooperative funding of research programs works. It does not work without a lot of effort, but it does work. Competing firms have learned that they can pool resources. The key was focusing on long term problems. They do not have to transfer in technology they are now using for competitive advantage.

Whether a consortia approach would work in dealing with short term problems is an issue that I am not prepared to make a judgement on, but it will certainly work on long term problems. The key is sustained long term funding. That is what attracts the quality of scientists that makes the difference in attacking very specific, very tough problems.

There have been, in my four years, no requests from MCC for Government funding. We talked several times about whether or not one ought to try to do that to broaden some partnership. My hangup was the issue of ownership of property. And I would suggest to you as you examine the issues of intellectual property, one of the things that you need to examine and bring much greater clarity to the issue is, if Government puts the money into the funding, what are the constraints that follow on the control of the intellectual property. Many of the companies simply are reluctant to join in a collaborative effort with the Government if they believe that is going to constrain their proprietary ownership of what results.

Finally, for, again, the large group of bills that are here. I read through them and it brought home clearly again not only that I am not a lawyer but why I always needed one to help me wade my way through the stack.

Let me suggest to you that there are some very good ideas in these bills. I would encourage you to look to improve the existing structure to find ways to focus it on the problems as opposed to setting out to create new agencies, new organizations. I think you have got a much better chance of getting some near-term results.

I guess it is the only place where I would take slight disagreement with my greatly esteemed friend, Dr. Baruch. I do believe it is a crisis, this competitiveness. I believe it is a crisis because we did not address the problem over the 25 years when we were steadily moving from being an enormous domestic market to one that is inextricably involved in international trade.

But I do share his view that you should not look for short term solutions in dealing with this crisis. The real payoff, notwithstanding the existence of a crisis, is focusing on things that are going to make a difference over the long term.

Thank you very much.

Chairman GLENN. Thank you, Admiral Inman. Obviously, we should have scheduled each one of you gentlemen for a separate morning by yourself. There is so much room for thought on this issue.

Senator Bingaman is our ad hoc chairman for following this issue on a detailed basis. Since we may all be called to the floor before too long, I would like to keep the first round of questions, at least, on a 5-minute basis. I know it is a little difficult to do with a panel this large. I would like to lead off with Senator Bingaman and then we will rotate.

Senator BINGAMAN. Thank you, Mr. Chairman.

Let me just ask how we go about sustaining a focus on some of these issues that we are talking about here as we make policy year after year in the Government.

As several of you indicated, in the proposals that are before us—and one of them is a bill that I have introduced, S. 374—we have got a recommendation to set up a council on industrial competitiveness. The council would be strictly advisory; it would not have authority like the National Security Council, but it would be an institution for focusing concern.

I am not sure who to address the question to, but let me start with Admiral Inman because you have a specific suggestion as to how to do this. As I understood your comments, the National Security Council should have its mandate broadened to include our trading relationships. It should take within its concerns the difficulties we have encountered in trade and some of the underlying factors leading to that.

I guess I am skeptical that that would be an appropriate fix to the problem. Would you put the Secretary of Education on the National Security Council? Would you put the Secretary of Commerce on there?

To what extent is it appropriate to start from a national security and defense-related perspective to solve the problem of us giving too little priority to the educational needs of this country?

Admiral INMAN. Senator Bingaman, I come at the problem from a somewhat different direction, and that is, how do you get on the President's calendar? I watched six of the last seven administrations at fairly close hand. The demands on your time are enormous. On the President they are even greater.

And the issue is, how do you get some way that you can get daily opportunity—even if it is only 30 seconds—in the process that notes this is an ongoing urgent problem on the agenda. I don't know of any other way.

The various councils or committees we set up are lucky if they get a hearing every third month or the slightest chance to make an input. That will not do. So how do we try structure the process that we are sure that competitiveness at an international marketplace is a frequent, ongoing agenda item.

That, in turn, says there have to be competent professionals as part of the NSC staff who are drawing up those issues, having them on the NSC Advisor's agenda as he goes in to meet with the President.

There is already an ability to bring in additional Cabinet officers to NSC meetings when there is a need, and what you do is bring them when you have got a formal item on the agenda. But it isn't the Cabinet members access that matters as much that there is staff supporting the President which provides a constant reminder of the need to deal with the problems. It is when they only surface on rare occasions that we end up not getting coherent policy.

Senator BINGAMAN. I would agree that we need to have a continuing way of bringing these matters to the attention of the President. I guess I am just doubtful that using the National Security Council is the best way to get that done.

Dr. BARUCH. I cannot address whether the National Security Council is the place to do it, but I can address a role of the intelligence community. Recognize that we have been living with the fear of war for a long time. Our fear of being invaded seems to be being displaced by a fear of being acquired, and it seems to me that with that change there is a role for the intelligence community to gather information about our competitors, about our opportunities, and about foreign technologies.

I am not suggesting special agents in the field skulking around in foreign factories. I am suggesting that we have a lot of knowledge about how to gather, coordinate, and put together bits and pieces so that they form a picture. If those skills were applied to the information that is available in lots of peoples heads as they come back from Europe, as they come back from the Pacific rim, as they come back from their travels, I think we could get an intelligence approach to civilian technology that would be as advantageous to us as it has been in military technology.

Senator BINGAMAN. Thank you. My time is up, Mr. Chairman.

Chairman GLENN. Thank you.

Senator Trible.

OPENING STATEMENT OF SENATOR TRIBLE

Senator TRIBLE. Thank you, Mr. Chairman.

Gentlemen, I appreciate your testimony this morning. I would like to make an observation. Any of you who might want to respond, I would certainly appreciate your wise counsel.

It seems to me that problem is not a lack of information but a lack of understanding our knowledge about ourselves and the world in which we live.

We continue to lose markets for our products and our ideas, and there are obviously a lot of reasons for that. But the language of trade is the language of the customer, and you cannot trade ideas for goods unless you understand the world in which you live.

We are paying a very heavy price for our inability to understand and communicate with our neighbors. I am struck by the fact that roughly a quarter of young Americans cannot find the United States of America on the map. They certainly do not know much about our values or our history, or why it is we might be a bit different than the rest of the world.

Let me read a couple of observations from a study done by the southern Governors. Admiral Inman, you played an important part in putting this together.

"The United States continues to be the only country in which a student can earn a doctorate without ever taking a language course. The United Nations study of 30,000 10- to 14-year-olds in 9 countries demonstrated that American students ranked next to last in their foreign cultures."

I go on: "Our standard of living suffers when only 5 percent of Japanese literature is ever translated into English while the Japanese are able to use our technological advantages to develop new and popular products. Only 8 percent of our universities require foreign languages for admission. Only 5 percent of our college graduates are fluent in any language."

I would suggest that many are not fluent in our own language. That was not in the study, I might add.

"* * * an estimated 10,000 English-speaking Japanese business representatives in the United States. Fewer than 900 American business representatives are in Japan and only a handful speak Japanese."

I will not quote further from that study, but I am just not sure that setting up new commissions and new committees is going to make much difference. I think we have to substantially improve the quality of education from day one. We have to be a whole lot more demanding of ourselves and our children. We have to give them a far better sense of what this country is all about and what makes the world tick.

John?

Dr. **Brademas**. May I comment on Senator Trible's, I think, very perceptive question and observation? You were not here a moment ago, Senator, when I made the observation that I was author of the International Education Act signed into law in 1966 by President Johnson, the purpose of which was to provide Federal grants to colleges and universities in the United States at the undergraduate and graduate level to encourage knowledge and understanding of these areas to which you referred.

Congress, however, never appropriated any significant money to implement that statute although Congress did pass Title VI of the Higher Education Act in an effort to capture something of the thrust of the International Education Act. I, too, share your concern that new structures may not be the answer to this problem.

To be very blunt about it—as you know I used to be when we served together in the House of Representatives—I draw to your attention that the Administration's budget for the current fiscal year, like its predecessor budgets, does not request any money for international education programs funded through the Department of Education.

I note also that this is the 40th anniversary of the Fulbright exchange program, a modest investment that paid enormous dividends for our country, and you and I both know that a coalition of Republicans and Democrats in Congress rescued this program several years ago from an effort on the part of the Executive branch to eviscerate it.

In my judgment there is no understanding at the present time on the part of the Executive branch of the Government of the intimate relationship between investment in knowledge, on the one hand, and the economic strength of our country on the other, and—to make the second connection—between investment in knowledge and the security of our country.

I do not understand how we can have $300 billion-plus annual military budgets and, even hypothesizing that Star Wars is a good idea—let's hypothesize that—how we can implement so extraordinarily demanding a project without a cadre of highly educated men and women, especially at the graduate level. Where are these people going to come from if not from the universities of our country?

Therefore, to press for huge military budgets and remarkable scientifically-based projects, on the one hand, while, on the other, to call for a 45 percent reduction in funds for student financial assistance and to say that we don't want to spend a penny for international education reflects not an absence of an appropriate structure in the Executive branch of the Government but a complete lack of comprehension by the Administration of the problem.

If there were sufficient comprehension of the problem, I don't think the structure would represent a major impediment to making advances, and I happen to be, as you know, a vigorous champion of the role of the Congress of the United States in these matters. Therefore, I think it wouldn't help very much to put the Secretary of Education on the National Security Council, because we all know from the posture of this particular Secretary that it would not really help very much.

And I don't want to say to his chagrin or embarrassment that I would sleep easier at night if the present Director of the National Science Foundation were on the Council, but even then, ultimately, there must be an intellectual apprehension, a comprehension and understanding on the part of the President of the United States that if we don't invest in knowledge, you will be driving a dagger into the heart of American economic strength and into the security of the United States.

As a member of the Democratic leadership of the House, every other week at the White House at breakfast with President Carter as we went through the Iran hostage crisis, and one reason that I appear before this Committee today as President of New York University rather than as still a member of the majority leadership of the House, is the Iran hostage crisis, because it helped defeat me in 1980.

I don't think the Carter Administration had a clear understanding of what the Iranians were doing and I need not insist upon the observation that the present Administration doesn't have much understanding of the Iranian situation either.

We apparently don't know very much about the people we are dealing with there and in other countries, and it breaks my heart to pick up the paper and see that we don't have even a clear handle on our intelligence apparatus in our embassy in the Soviet Union. Mr. Chairman, we will sink or swim depending on brain power, and unless the President of the United States understands that, rewriting all kinds of structures won't solve the problem.

Admiral **INMAN**. Senator Trible, if I may, I am a pragmatist and I served in the Executive branch. There are very few issues that get on the agenda of the President, no matter which party, no matter what his interest in education was before or after.

I strongly support the proposals on funding international education. Congressman Simon, at that point, held a hearing shortly before I left Government service. I had already declared that I was departing. I went up to support investment in foreign language study, but in clearing it OMB told me not to go. So I did not go as the DDCI, I went as a private citizen. It did not win me any friends nor did we get the bill through.

The point is that it isn't what is on the President's agenda ultimately that does it. It is what are the influences that go down to OMB, because that is where these decisions are being made.

Mr. **BLOCH**. You started with foreign languages and we wandered a long ways here and I think I want to get back to the foreign language question in a minute, but I need to make one point, that what President Brademas pointed out is only partially correct.

The President really put forth in the Trade, Employment, and Productivity Act of 1987 exactly that, namely, the importance of investment in new knowledge, the importance of investment in education, the importance of investment in transferring new knowledge into the civilian sector, into the industrial sector. I think that speaks for itself and that is all I wanted to say on that particular point.

Now I want to come back to your point on foreign languages. I think you are absolutely right and I am very supportive of foreign languages being taught. We are not doing well in that regard and our students and our people in industry would do better if they could read and speak a foreign language.

But I have more of a concern than that. We don't even read English very well. And if you see what has been happening, who has exploited our university discoveries, it was not the American industry. It was Japan that exploited it first.

So I think while we are focusing on foreign languages we should also focus on the importance of transferring information from the people that create it to the people that can use it, and that is as important as the foreign language aspect of the problem that you focused on.

Dr. **Baruch**. Senator Trible, I think you were not just talking about foreign languages. You were talking about understanding of people, understanding of customers—not of markets but of customers—and I think that is critical.

I work with foreign countries helping them develop industrialization strategies. I have worked with Senegal, China and India. I am currently working with Israel, Jordan and Egypt. I am trying to work out a development strategy for the West Bank and Gaza.

When you get into these countries you find out that they are not little poor sections of the United States. We lost the ability to market a blender in Japan 20 years ago because we insisted on making it with square edged buttons instead of rounded ones, and that offended a Japanese tactile sensitivity.

We have to learn not only the language, we have to learn to respect these potential customers. We have to recognize that we are in a global marketplace and we have to deal with global customers. And that starts, I think, at the earliest levels of grade school, because it is not a language problem. It is a reduction of arrogance problem. That is where we have to start.

Senator **Trible**. Gentlemen, thank you very much. John, it is good to see you again, my former colleague in the House of Representatives.

Admiral Inman, you are always welcome, your wise counsel and insights. And Dr. Baruch and Mr. Bloch, it was a pleasure to meet you as well. Thank you. Senator Sasser?

OPENING STATEMENT OF SENATOR SASSER

Senator **Sasser**. Gentlemen, I think the gavel has come around to me by default here and I am going to have to be very, very brief because I also need to rush off the floor and vote.

Listening to Dr. Brademas this morning, I am reminded of how much we miss his leadership in the Congress, and particularly on these very, very important issues that we are trying to deal with now.

Dr. **Brademas**. Thank you, Senator.

Senator **Sasser**. I have a sense that we have a lot of problems relating to economic competitiveness, but one of the problems is that we may be being failed by American business itself. Now, let me just give you some examples.

We continue to lead the world in scientific discoveries and Nobel Laureates, I am told. But we cannot seem to turn our ideas into practicable, marketable items. We invented the solid state transistor, and then in 1953 Western Electric licensed Sony with the technology for $25,000, and of course, the rest is history.

A few years later RCA licensed several Japanese companies to make color TV production. And in 1968 we licensed Kawasaki Heavy Industries to make industrial robots. This list is contained in a very interesting book written by Dr. Robert B. Reich, he goes ahead to make the point that we came up with the big ideas for video cassette recorders, basic oxygen furnaces, microwave ovens, et cetera, et cetera, et cetera, but it is the Japanese who have taken these big ideas and make them into items which they can market worldwide and drive us from the markets.

I wonder if we are having a failure here of American business, if we aren't being overrun to some extent by the MBAs who simply look at the profit and loss statement on a quarterly basis, while we have lost the innovators. We have lost the manufacturers and we have lost those who are really worried not so much about the profit and loss statement at the end of this quarter or how the stock is going to look on the big board in New York, but they take pride in the quality of the product and what people are going to think about what they manufacture.

Does anybody want to respond to that? Admiral Inman.

Admiral **Inman**. Senator Sasser, let me try several different approaches to it, generally agreeing with your basic precept.

Senator **Sasser**. Could you do it quickly, Admiral? I hate to rush you, but I have to go vote.

Admiral **Inman**. Okay. Part of it is the issue of capital formation. There are very different approaches, interest rates, where the banks sit on the boards, how decisions are made to move quickly.

The second issue is the availability. If you don't have a broad base of research you focus on how quickly you can use what you can pick up somewhere else because you think you are a couple of years behind. We don't have the incentives here.

Third, industry tends to sort of mirror image what the Government is doing, and when Government takes a procurement process that focuses on stretching it out 12 to 13 years to avoid mistakes, instead of an urgent timeliness, industry follows right down that example across the aboard.

So there is a lack of a sense of urgency, and some of that is indeed reflected in the processes the Government puts in place for its own procurement for using new technology in this country.

Senator **Sasser**. Thank you. I would like to come back and get the rest of the answer, but I don't want to miss this vote. I have only missed one vote this year so I don't want to miss another.

The Committee will stand in recess subject to the call of the Chair.

[Brief recess.]

Senator **Bingaman**. Let me go ahead and start this off again. I am not sure those are my instructions, but I will do so, because I have a few other questions I would like to ask if I could.

I understand we will have a little bit of a break now. The President will be here at 11:15 to twist the remaining few arms over in the Capitol Building, so we should have a few more minutes to continue.

Admiral **Inman**. Senator Bingaman, if I may, I am under substantial time pressure to get to a meeting that I am missing.

Senator **Bingaman**. Admiral, why don't you go ahead and excuse yourself if you need to do that.

Admiral **Inman**. All right, Senator. Thank you very much.

Senator **Bingaman**. Thank you very much for coming. I understand Mr. Brademas also has to leave.

John, in your prepared statement talked about and the fact that the National Science Foundation had done a significant amount of funding in the area of superconductivity and had been involved in some of the basic research that has led to the recent breakthroughs.

I am concerned that there may be a gap between the basic research that we fund—that your Foundation funds—and the application of that research. I read in the paper about how MITI is putting together a consortium of industry and academic individuals and trying to identify potential commercial applications of these new breakthroughs.

In this country, I don't know where the responsibility lies for doing something like that, if it lies anywhere in Government. It seems to me that this is a very interesting case study where once again the United States is making the scientific breakthroughs but seems lacking in applications. The basic science that we are funding is making breakthroughs which are expected to have major applications. Yet we are faced with the very real possibility of some of our trading partners seizing those scientific breakthroughs and going forward to apply them to commercial products that they then sell to us.

How do we fix this problem? I asked Secretary Baldrige this question last week. Now, I have the greatest respect for him, but his response, I think, is representative of the kind of a response that I think we have traditionally had.

He said, if it is a national security problem, then DOD should take the lead in getting this science into application. If it is not, the Government really doesn't have to be involved. As I say, I do not agree with that position, but I am not singling him out for criticism because it is atypical. I am reciting his response because it is typical.

I would be interested in your view of how do we take this one case and actually see to it that we do not end up buying all of these products from someone else?

Mr. Bloch. Well, you asked a very long question.

Senator Bingaman. I know. I apologize for that, but since no one is keeping time here I thought I would use an extra minute.

Mr. Bloch. I just wanted to prepare you for an equally long answer. That is the reason why I mentioned it.

Senator Bingaman. That is fine. It is an important issue. I am glad to hear it.

Mr. Bloch. It is a very important issue, and I mentioned before in my statement that we have to achieve better coupling of the research enterprise with the industrial enterprise. And I think that is where our problem lies, that this coupling has not occurred, or has not kept up with the needs.

That is a very important aspect. Now there is also—and I must say that right at the beginning—there is not one single button you can push and make that happen. It is much too complex a situation, because our whole enterprise is very complex. It is very diffuse, spread out. Government has a part in it. Industry has a part in it. The States have a part in it. Academic institutions have a part in it.

Our society and our government are much less homogeneous in that regard than the Japanese are, and therefore, we should not simply imitate what works for the Japanese. We might be disappointed. It might work for them and it might not work for us.

Now, what should we be doing? The first thing we need to be doing is make sure that this coupling occurs in a more natural way than it has occurred in the past, and I focus for a minute on the Engineering Research Centers.

We established the Engineering Research Centers not only to create new knowledge, although that is extremely important. And not only to serve education. Even that is extremely important. But also to make sure that industry and universities work together on common research problems, the problems that are important to both sides.

The way we have been trying to stimulate that is essentially by being a catalyst, and not being a coordinator, and focusing on cooperation, not coordination. By asking the universities and by making a demand on the universities that when they submit a particular proposal for an Engineering Research Center—and also we will be doing the same in the Science and Technology Center area—that they must include industry participation.

Industry involvement might very well be in terms of people that go from industry into these centers or in terms of support—monetary support or equipment support—that industry promises these centers. It could also be the reverse, people from the centers going into industry and spending some time there.

But I think going beyond that and making it a mandatory thing that 20 percent of the people in the centers are industry people, I think, would defeat the purpose. So at best the Federal Government can be a catalyst and provide incentives.

At the same time, I think we have to provide incentives to industry so that they have a reason for exploiting new knowledge and new development. The R&D tax credit is certainly one of those incentives.

Making sure that our antitrust laws recognize that there is a phase in the development of a project, namely when it is in the very early research state where competition in the marketplace is unaffected by cooperation in the laboratory. Allowing that to happen, I think, ir one of those incentives. So I think that we can provide an atmosphere in which this cooperation will occur and in which this coupling will occur very naturally.

Let me focus on your question on superconductivity. I have read with some dismay, I must say, Senator Durenberger's bill that establishes a commission on superconductivity. I do not think a commission is going to solve this problem. It is people and hard work in this area that will solve the problem.

We have enough commissions. We have ad hoc commissions. We have commissions in the private sector. We have the National Research Council that is chartered by Government to overlook our whole science and engineering base.

By the way, you should know that I have asked the National Research Council through Frank Press that they focus on this problem of superconductivity, that they bring people together from industry, from academia, from the Government laboratories, to first of all, find out what goes on. And secondly, find out where holes in our efforts are, what we are not doing that we should be doing.

I think that would be a much better approach and also one that can be done quickly, can start right away rather than depending on a newly chartered commission.

So I think we have to change the whole culture of the country. Incentives are one thing. The cultural aspects of making sure that it is understood and that it is expected that the various sectors work closely together—academia work closely together with industry; industry work closely together with the States; the Federal Government work closely together with industry, the States, and academia. I believe there is much that can be gained which is not occurring today.

Senator BINGAMAN. Doctor Baruch?

Dr. BARUCH. Senator, thank you for the opening. I spent a lot of time in Government worrying about Government incentives to do the kind of things that you are asking. But I have spent a lot of time consulting with industry, and one of the things I am finding is that incentives do not work if the ability is not there.

We talk a great deal about research, and we talk about applied research. But what we do not talk about much in our council chambers is the application of research, the creation, invention, development of new products and processes that society uses and that match the needs of customers.

We have to understand that the application of knowledge is very different as a task from the creation of knowledge, and it is an activity that takes place primarily in industry. It is not an activity that takes place in Government. Nor more importantly, is it an activity that takes place in our schools.

Our task, really, is to get brainy people into industry, and I think one of the most powerful tools we have to do that is cooperative education. I have seen no action by the Congress focusing on supporting cooperative education.

I have made a recommendation to an electronics company on whose board I sit that they get involved with students at grade 10 in the high schools, that they offer 6 years of summer employment to students who will maintain a B+ or better average, that they taper the training of the students so that they may start in the receiving room or the shipping room and end up in the engineering department, so that the students get immersed in the culture of the organization and understand that the business of that organization is meeting customer needs, getting customers happy and keeping them happy.

Now, if we can get bright students doing this and if we can find a way for the Federal Government to help support some of the costs of this kind of cooperative education, moving bright students into industry so that the sense of environment that they get is an industrial one. Otherwise my fear is that the bright students will end up with an academic environment identification. Nor can this problem be solved by having industrial people teach part time. The environment is still academic.

That alone, of course, is not going to solve our problem. We have got to get students involved in solving problems directed at use. We had an organization in the Government—I hate to bring up NASA in this particular body—you clearly know more about it than I do—that was set up to solve a set of problems directed at use.

They defined them, they tackled them, they used all the brains they could gather to do it. Now we have to ask, "How can the Federal Government support the kind of cooperative education where bright students move from high school and college into industry and learn the industry problems so that they focus on them the way that NASA did?" I think we can do that but I think it is going to take some creative legislating on the part of the Congress.

Senator BINGAMAN. Mr. Chairman?

Chairman GLENN. Thank you, Senator Bingaman, very, very much.

I am sorry for the truncated nature of our hearings this morning here. There are thousand questions and I am sorry we have lost a couple of our members of the panel that had to leave early.

The particular province of expertise of this Committee, or oversight responsibility of this Committee, is in the areas of organization and Government efficiency.

As you know the President's Commission on Industrial Competitiveness, headed by John Young, recommended the creation of a Federal department of science and technology, which most of the other industrialized nations of the world have in one form or another.

Can we then combine a number of other functions that are now under separate agencies, such as NSF, National Bureau of Standards, NOAA, some of the energy R&D and DOE, EPA research, Department of Education, Geologic Survey, National Research Council—can these agencies be put into some sort of a department of science and technology as the Young Commission recommended?

Some years ago I initiated a similar proposal and was going to talk about it for about a year and then once I had developed some support for it, introduce legislationon it. In fact, that happened 6 or 7 years ago.

I thought I would get immediate support from the scientific community, and I was very surprised when I got decided opposition—so much opposition that I pulled in my horns, fell back and regrouped, and decided not put the proposal back in again.

When I questioned the people that were testifying against this, or were speaking out against such a proposal in the science community—I will be very frank—what I found was not that they didn't think that we needed more coordination, but, it turned out in private conversation, not in public testimony, that what they were afraid of was that I was going to disturb their own pipelines into Government.

Would a Department of Science and Technology be a good idea? Would we really have better coordination? Mr. Bloch, I guess I would put it like this. If we could arrange a guarantee that you would be the new Secretary of Science and Technology, would you be for this?

Mr. BLOCH. I would be opposed to it.

Chairman GLENN. You would, all right. Tell me why, please.

Mr. BLOCH. Well, no. That was a joke. [Laughter.]

I withdraw my answer. Mr. Chairman, this subject has been discussed for 20 years—literally for 20 years. It comes up every 2 years. And I am not surprised at the reaction that you have gotten from the scientific community.

I am somewhere in between on this particular question. Let me tell you what my concern is. My concern is that we are putting another hierarchy in place, another bureaucracy in place in this Government, which is already large enough. That is my concern.

My concern is also that we would homogenize support for the science and engineering enterprise, and it is not a homogeneous enterprise. It is not like DOD where you have one mission, essentially, to fulfill.

The mission of such a department of science would be manyfold. It would deal with education at many levels. It would deal with science, with engineering, with technology. It would deal with the health of universities at many levels. It would deal with Government laboratories of all kinds. So it is a very heterogeneous kind of an enterprise, and we need to preserve that heterogeneity.

I would like to ask a question first, before we undertake such an effort, what problem are we solving by doing that? You mentioned one: better coordination. There must be other problems that we are not getting to today, and we should really understand what the problems are that we want to solve and then decide if they can be solved by an organizational approach——

Chairman GLENN. Well, let me respond to that and then we will get back to letting you complete your statement.

I think it is getting the attention of the highest levels of Government. When the new Administration came in and suggested cutting out some 29 percent of the basic research in this country—now, Congress did not let them do that so there wasn't a 29 percent cut—it shows what a lack of appreciation there is.

We had David Stockman sitting in the same chair that Dr. Baruch is in earlier and he said—in the second year's budget, I believe—we want to cut research, and then if the economy is in a little better shape next year we will put it back in again. I just went through the ceiling because it shows such a lack of understanding about long term research. I could not believe it.

Second, if there were a department of science at the cabinet level, science-related issues would get the President's ear along with all the other departments—the Commerce Department, Energy, Defense, and everyone else.

Right now we have a proliferation of organizations in some realm of science that it seems to me bringing them together under one roof and coordinating their activities is a very laudable goal.

And now I will let Dr. Bloch complete his statement here. I interrupted him.

Mr. BLOCH. Well, let me just mention in response to you pointing out what the objectives are, you have a science advisor today.

Chairman GLENN. That is another office I would like to discuss at some length.

Mr. BLOCH. Well, my point is, if you want to give it more status or more help, why don't you make that part of the Cabinet? That is one way of giving a role and a place around the Cabinet table to the science and engineering community.

I wanted to go back to what I said before. I think we should be clear on the objectives of such a department, what problems we want to solve, make clear that the organization really is able to address it and can solve it.

The other one which I really want to plead for is the following, that we go slowly on anything like that, that we take some initial steps instead of putting it into place from one day to the next. It takes a long time for a department to function, and having a hiatus of 3 or 4 years—that is how long it takes usually—where everything is in turmoil, does not help us, necessarily, out of our present situation.

Chairman GLENN. What would you suggest as a halfway house here?

Mr. BLOCH. Well, let me give you one particular example, and it has been bothering me since I have been here—and I have only been here two and a half years—so it is not as bad as it sounds. And that is the following, nobody in Congress is overlooking the whole science and engineering budget—or science and R&D budget—of the United States.

I am not saying that you should create another Committee necessarily, but one hearing every year on the total Federal R&D budget would be extremely helpful to focus the Administration and focus Congress and focus the rest of the country on that very important subject, and also make some tradeoffs between these various uncoordinated budgets that exist today. I would suggest that might be your first step.

Chairman GLENN. That may be an excellent idea and it might be something that this Committee would do because the organizational aspects of Government come under the province of this Committee and so we oversee that.

Before we get to Dr. Baruch—and I hate to keep putting you off here—but as a half-way step would you think that in effect a civilian DARPA, which has been suggested—in other words, a civilian counterpart to the Defense Advanced Research Projects Agency—would be a good thing to have on the civilian side?

Mr. BLOCH. Well, again, if you mean by that, an agency that funds work between applied research and product development, I would counsel against it. What we have today is government funding of basic research in universities, together with education and where some of the mission departments are funding applied research in universities and in the Govenment labs.

I think that approach is probably optimum if it had enough resources to do the job. I am not so sure that adding one more area to it is really that helpful.

Chairman GLENN. Correct me if I am wrong, but DARPA goes a little step further than NSF in their college and university work in tailoring their research to specific identified ideas and needs, which I think a civilian counterpart could also do.

Mr. BLOCH. Absolutely. But many things that DARPA does, NSF participates in it many times. We have joint programs, for instance, and also what we are funding initially by ourself leads to programs that DARPA then later on exploits.

Chairman GLENN. Dr. Baruch, I held you off a couple of times here. Go right ahead.

Dr. BARUCH. That is just fine. An answer to the question you asked deserves a little deliberation anyhow.

I do not think we ought to have a Department of Science and Technology. I do not think we ought to have it because I think it would focus, because of the structure of our society, too heavily on science.

What I would like to see you suggest is the formation of a Department of Technology and Commerce, because that is the marriage that we need to get us out of our competitive straits and that is a long-term marriage. It is also an organization in which a civilian DARPA could function.

DARPA functions well now because it knows for whom it is working. It works for the Department of Defense, even though that is not the original concept when it was set up. It is housed at DOD, but it was supposed to be a national activity.

How strong we could get if we had a Department of Technology and Commerce which wedded those two together and wouldn't worry about all of the cats and dogs of research that the Federal Government now supports, but would focus on coordinating those that really have an industrial bent—the National Bureau of Standards, the Patent and Trademark Office, which are already in Commerce—and the support of programs that could really focus on getting industry geared to the application of the knowledge that we have and continue to generate.

Chairman GLENN. I am going to have to go or I am going to miss this vote, so we will stand in recess temporarily until Senator Bingaman gets back and then he will take up questioning again. I apologize for the nature of the hearings this morning, but that is not something I can control, so I will be back as fast as I can get back.

[Short recess.]

Chairman GLENN. The hearing will resume. On days like this we need roller skates or a skateboard or something here, but I appreciate your patience, gentlemen.

Senator Roth was on the floor voting and is in another hearing this morning. He is Ranking Minority Member of the Committee and he wanted me to tell everyone he was sorry he could not be here. He is going to try and get out of the other hearing if he can.

The other hearing is also on trade. They have Mr. Yeutter before them this morning, and so they are into some of the trade problems also.

I cut you off short, Dr. Baruch. Do you have anything else to say on the department of science and technology or the idea of a civilian counterpart to DARPA?

Dr. BARUCH. I did want to stress that I thought the appropriate marriage in your organizational thinking might be to think more about marrying technology and commerce rather than science and technology. It is relatively easy to get science and technology married. It is very tough to get technology and industry married.

A Department of Technology and Commerce could have within it a civilian DARPA which I think would be very effective and could cooperate very well with the National Science Foundation, particularly the expanded Directorate of Engineering, for which I would like to congratulate Dr. Bloch. I think it is important that we have more focus on engineering in the NSF.

Chairman GLENN. I understand Senator Bingaman has covered the other idea in his legislation—proposed legislation—on a Council on Industrial Competitiveness. Just very briefly, how did you reply to that? Did you favor that or not?

Mr. BLOCH. We didn't get to that problem. I think his time was up, but I want to comment on that if I may.

Chairman GLENN. Yes. In S. 374 he has proposed an independent agency with membership from business, labor, Government, academia, and public interest groups which would provide a forum where national leaders from a variety of sectors can identify and focus on all aspects of the economic problems and trade problems.

It would be called a Council on Industrial Competitiveness. There are various ways this could be done. It could be done in a way that would broaden its terms to take into account education, research, science and technology, or have it be part of the business, labor, Government, academia, public interest groups representation there.

Would you favor such a council, and if so, what do you think its mission should be, or what should the membership of it be? Dr. Baruch, we will lead off with you this time.

Dr. BARUCH. I guess I am not very much in favor of councils, Senator. I think the effectiveness of organizations depends heavily on their clout. Advisory organizations can advise, but they rely on a kind of both willingness and ability to implement their advice.

I would much rather see this Committee concentrate on organizations that will have clout like a department-sized organization because advice often falls on deaf or incompetent ears.

Mr. BLOCH. May I comment on that?

Chairman GLENN. Yes, certainly.

Mr. BLOCH. I am also not in favor of a council on economic competitiveness. There are a number of institutions today, and a number of organizations today that have been established with similar objectives. John Young, for instance, as a follow-up to his

Presidential Commission report has established, a Council on Economic Competitiveness which has people on it from industry and from academia.

I think that kind of a council, a voluntary council that gets together on an ad hoc basis and hopefully does work over the long haul and holds a mirror up in front of all of us, should be supported instead of establishing another one.

Such a Council obviously, has only as much clout as the individual members have. If one is careful in the selection—and John Young has been very selective in his membership—I think it could really fulfill a similar, if not the same purpose, that the proposal in this particular bill puts forth.

Chairman GLENN. Incidentally, going back to your previous comment about Senator Durenberger's proposal on the Commission on Superconductivity, I agree with you. I think maybe what he was responding to, and I guess I shouldn't try to put words in his mouth, but I imagine he responded to something I read in the paper too—or in one of the magazine articles—an article about what happened after the New York meeting where superconductivity was discussed by leading scientists of the world. The Japanese response was to call an emergency meeting in the middle of the night. They got people from different agencies and groups together. They had a group formed by the next day and they are operating now to maximize what they can do with these new breakthroughs in superconductivity.

We haven't even gotten around to—well, I don't know what we are actually doing. My response was, when I read that, we ought to do something. I don't quite know what, but we ought to do something quick; we ought to do whatever is within our capability of doing. I imagine Senator Durenberger was concerned about this.

I, too, am concerned about it and we come back to some of the questions we are going to have here today. But I agree with you that our Washington response to too many things is to form a new committee, commission, council, study group, something that avoids making a tough decision and putting some money behind it and getting things done.

When I first became a member of this Committee when I entered the Senate, we asked for a study—I think the Congressional Research Service—to put together a list of the committees, councils and commissions that were in effect at that time.

It turned out there were more than 1,600 and we went to work to try to eliminate some. We were successful in eliminating, as I recall, somewhere around 400 committees, council, commissions that were all syphoning off amounts of money to bring their members in once or twice a year and talk about whatever it was and make a recommendation and leave town. Nothing ever got done so we wasted a lot of effort and money to boot.

As I understand it, the number of commissions and committees has now grown back to more than what it was before we took that action 10 years or so ago, and one of the things we hope to do with this Committee is to look through all of these groups again and try and eliminate another 12 hundred out of 15.

So I am very sympathetic to the idea of not forming just another commission, committee, or council to try an oversee something.

Mr. **Bloch**. Can I answer that, Mr. Chairman. I know Senator Durenberger's proposal is a well meaning one. And by the way, I need to say I am not at all complacent and I am equally worried that in this particular area we are not going to be the winner necessarily.

But the point I wanted to make is that a commission or council is not going to help the situation. Getting people together that have a stake in it—industry, academia, individual investigators, National Research Council—and keeping a focus on this particular problem from that viewpoint and trying to fill in the holes through funding by the National Science Foundation if need be, or other agencies of the Government, I think is a more fruitful approach for us.

The Japanese are truly coordinating, marching in lock-step, and I don't think that would work for us. That is my only point.

Chairman **Glenn**. Dr. Baruch.

Dr. **Baruch**. Senator, it might be worthwhile getting your staff to investigate, but I understand from a usually reliable source that DARPA already has 3 contracts out to industrial companies to get products developed based on superconductivity where the goal is to get a product out in three years. It may not be the best product for the use of superconductivity, but it is aimed at using the new technology ion actual real products. It might be worthwhile taking a look.

Chairman **Glenn**. These would be products, though, for use in the Department of Defense?

Dr. **Baruch**. I cannot answer that.

Chairman **Glenn**. Does it go beyond that?

Dr. **Baruch**. I think it would be worthwhile having your staff check that, because DARPA's record is a rather singular one in that many of the things it has done have been extremely valuable for the private sector.

Chairman **Glenn**. Sure.

Dr. **Baruch**. I point to the DARPA network, which was the first forerunner of connecting computers together, packet switching, a whole bunch of things that may be useful for defense, but because we had some brilliant people in DARPA, got them focused on things that were also useful for the private sector.

Chairman **Glenn**. Well, spinoffs to the civilian sector from DARPA research has been enormous. In fact that has been one of the longer term best benefits of it, I guess.

Dr. **Baruch**. But not because it was accidental. It was thought about before the research was found.

Chairman **Glenn**. This leads right into what was going to be my first question earlier on this morning, and let me just ask it here. The importance of developing and applying new technology to enhance existing products, create new products, improve manufacturing process is well established, yet we seem to be faced with a situation where much of U.S. industry and services are losing ground to foreign competitors because investment in new technology is inadequate.

We don't put the necessary investment into research. We don't take the risk. Are there some things you think Congress should do to address this problem? What would they be? What would be the top two or three things that we could do here to encourage investment in new technology?

Dr. Baruch, you are in the think tank field here and deal with business everyday.

Dr. BARUCH. Mr. Chairman, I wish I could think of something. I cannot think of a role for Congress at the moment that would get this new technology applied by businessmen, because what I find is that the businessmen are largely and frequently risk adverse. The current activity in takeovers has increased that risk aversion. The reporting requirements of the SEC has increased that long term risk aversion.

I don't know what the role of Congress is. I know we have got problems, but I can't offer you a solution. I am sorry.

Chairman GLENN. John Brademas in his remarks suggested that certain credits and tax exemptions be given for basic R&D and applications. That is one way to go, but I would submit on the other hand, another idea—let me go back to my early days on this Committee.

I worked in those days with Ed Muskie on some of the old zero-based budgeting proposals, and at that time the revenue foregone at the Federal level that we did not collect, due to tax incentives was on the order of $126 billion. Last year one of the biggest driving factors behind the passage of the new tax bill was that in the interim 10 year period, our revenue foregone to all of the different incentives was over $400 billion per year.

That was the driving force behind the need for a whole new approach on tax incentives. We have peeled them back—we didn't go back any ways near to 126, but we did peel them back a little bit—and I think the possibility of getting any major tax incentives through now is a little bit remote. I would myself favor a direct approach and to appropriate X dollars for whatever the purpose is and not try and make it an incentive.

That is just a comment on the side. It is not a question. Mr. Bloch?

Mr. BLOCH. Well, on your original question, certainly you know what the Government has done and what Congress has done over the last few years—and I agree fully with Admiral Inman on that—has helped tremendously, and that is the R&D tax credit. I think much funding in the private sector in particular, but also in industrial support of university research, due to the R&D tax credit.

The problem with it is that it has been extended only for a short period of time. Nobody knows what will happen when it expires. I think it is expiring in two years or thereabout, and making it permanent might be a good signal that Congress can give to the country and to industry as a whole, that we are serious about it.

Chairman GLENN. Dr. Baruch, is the problem of antitrust laws and the willingness of companies to cooperate in research and do cooperative research that we are hindering that with some of our Government policies?

Dr. BARUCH. I think we have gone a long way to eliminate that particular barrier, cooperative research, and I think there are other areas that we have to explore that will be more fruitful. I agree with Erich about the support for the R&D tax credit, particularly for the growth of R&D tax credit.

Our antitrust laws, I think, are rather important to push industry into innovating. One of the things they do is keep the leader from capturing all of the market where there is a natural return to scale. And I think that pushes us into a thing we call the "Avis effect" in innovation. I think the antitrust laws have a great deal to do with that Avis effect. I don't think that is an area that needs a lot of exploration right now.

Chairman GLENN. I am sorry that Admiral Inman is not still here because I think some of his experience with the group that he has headed up—MCC down in Texas—where they got a number of companies together for a cooperative effort would be of use to us here. I think there has been a great deal of difficulty in making it come to the smooth working conclusion he had hoped it would come to.

So I think there has been a reticence of a lot of companies to really get in and cooperate with each other in some high tech research areas.

Dr. BARUCH. I wonder how much of that is fear of antitrust and how much of is fear of giving up a competitive edge that they see.

Chairman GLENN. I don't know and that is what I wanted to ask him and we will probably submit a question to him on that line later.

Mr. BLOCH. I can't speak for Admiral Inman, obviously, but I was involved when I was still in IBM when he set up MCC in Austin. And the problem was not so much the law itself but the uncertainties of the interpretations of the law. There was a big fear of how these interpretations would be applied in this case. Clarifying these regulations, and by the way, some of the regulations were clarified because the MCC case helped significantly.

It was really the fear of the unknown that stood in his way and that delayed the establishment of MCC.

Chairman GLENN. The whole research community is under attack, private and Government, from the Administration idea that if research is worth doing, private industry will do it. And I just think that idea flies in the face of everything that has happened in this country.

We have had a few companies—the IBMs and the Bell Labs and the Monsantos and 3M, TRW, and a few others that have put money into long term research—the 8, 10, 15 year programs. But by and large industry in this country has not been all that supportive of the long term research. It is the 3 to 5 year maximization of the bottom line for the current CEO that gets emphasized, and our business leaders don't have the tenure that they have in Japan and most of the European countries.

So that is a big problem for us to set long term objectives, and the real breakthrough, the seminal Nobel Laureate type breakthrough research, has either come out of the Government labs or out of research support at colleges and universities through Government support.

About 4 years ago or so we did a little study just out of my office. We sent questionnaires out to the U.S. Nobel Laureates and we had a very high percentage of return—not quite 100 percent but near to it—and close to 90 percent of them said that without Federal Government support they would not have been able to do their research at either the college or university or the national lab.

And yet we find ourselves at a time of increased competition around the world cutting back on those funds. I just think that is tragic.

Mr. BLOCH. Let me comment on it, and I will warn you right from the beginning it will be a self-serving comment.

Chairman GLENN. Feel free. I am a supporter of NSF. Go ahead.

Mr. BLOCH. Thank you. You are absolutely right. Basic research is really a major function of the Federal Government in this country because of exactly what you are saying, that there are many private organizations that cannot afford—not a question of do they want to—cannot afford to take that long term kind of a view. Only a few can take it.

And by the way, I am very concerned that with all that is happening—layoffs in many industries, mergers of companies—that the basic research that is occurring in this country funded by industry will contract even further. That is why it is very important that the Federal Government step up its basic research component, significantly.

This Administration has focused on that very heavily. If you notice what has happened, and I know you have, the D part of the civilian budget has been reduced and much of that money has been put into civilian basic research. That is why you saw the increases in the National Science Foundation's budget over the last 3 to 5 years.

That was really in recognition of the fact that the Federal Government has a responsibility and is really the first provider of basic research and not industry. And that is why you see the focus on our budget this year in 1988 and the doubling of the Foundation's budget over the next 5 years. This is in recognition of the fact that we need more basic research in the country and it is not going to come from the private sector. Therefore it has to come from the Federal sector.

Chairman GLENN. Dr. Baruch.

Dr. BARUCH. You are absolutely right. Not only must the Federal Government support basic research, but private industry should, in fact, not support it. You have to be a very large company to support enough critical mass in basic research, on the order of being a $3 billion company, in order for you to support that kind of research.

The Federal Government should support it because private firms really cannot appropriate all the benefits. It therefore does not make economic sense for private industry to support basic research. But the task that we have to focus on is, "Once we make that decision to support it through government, how do we get the results of that basic research into industry as effectively as possible?"

Chairman GLENN. Yes. That is the point you were making before and I agree with you completely.

Just one other question here and then I will turn it over to Senator Roth who is still between hearings here—he still has the other one going on—plus the President twisting arms, I guess, this morning.

My own personal opinion—I will telegraph my punch in advance here—my own personal opinion is that when we try to privatize such things as the National Technical Information Service, NTIS, and things like that we will run into trouble when we base the availability of information to our business and industry on whether some private organization that bought NTIS out and took it over is going to have a good bottom line or not as opposed to making sure that Government gets the information together and makes it available for everybody to use just flies in the face of reason.

I think an action like that carries the whole idea of getting everything back to free enterprise too far. Just brief comments and we will turn this over to Senator Roth.

Dr. **Baruch**. I agree with you. I used to be responsible for the NTIS as you know. The reason it does not make sense to privatize it is that we would undergo what is commonly called skimming. All of those things that are popular would get produced and the twig publications would disappear. Yet those are frequently the ones that have had the most significant impact on industry because some bright guy got hold of that hidden nugget and built something on it.

Chairman **Glenn**. Mr. Bloch, do you have a comment on NTIS?

Mr. **Bloch**. No, I don't think so.

Chairman **Glenn**. Good, thank you. Senator Roth.

OPENING STATEMENT OF SENATOR ROTH

Senator **Roth**. Thank you, Mr. Chairman. I want to apologize to our witnesses and to John Brademas and the others who I missed because of the need to be elsewhere today.

I am a strong believer that research, both basic and applied, is essential to the competitiveness of this nation, and I would like to congratulate Mr. Bloch on some of the initiatives that have been taken in bringing together business, universities and Government in an effort to move ahead in some of these areas. I think that that is a critically important initiative that must be continued.

One of my concerns in this area, if you are looking at it from strictly a competitive point of view, is that in many of the particularly academia research, we find that our competitors are also contributing funds. In a very basic way I think that is good and solid.

At the same time, if you are looking at it from the competitive point of view, it means that this information is becoming readily available to our competitors as fast as it is to ourselves.

I would be interested in both of you gentlemen's comments on that. Do you see a problem here? Certainly the scientists like to have free flow. I think that is essential for good research, as I understand it. But should there be any limits? Should we attempt to protect in any way our research?

As I understand it, it used to be it took years before basic research knowhow, technology, whatever you wanted to call it, spread around the world, but today it can be, I guess, be a matter of seconds.

Dr. Baruch. Yes, I think we do have a problem, and I don't think the problem can be solved by restricting the flow of information.

I had lunch yesterday with Hiroshi Inosi, a Professor in Japan who is an advisor to MITI in their academy, and he pointed out that they were setting up an information base—a data base—in Japan to get all of their scientific research together. It would be open to the United States. When we heard that, what did we do? We sent delegates over there to try to insist that they set it up in English.

I don't think that needs any further explanation. They do take the trouble to latch on to our developments, our research, our results, but they are available to us just as rapidly. What we have to learn to do is compete, and we ought to stop whining and saying we have got to build a little fence around this information because it doesn't work. You can't build a leak-proof fence.

It is even more difficult in information than it is in missiles. We have got to recognize that information will flow, that it flows very naturally, and that what we have to learn to do is take advantage of it and market it well before our competitors do. And if we can't do that we are going to suffer.

Senator Roth. Yes.

Mr. Bloch. I agree fully, Senator Roth, with what just was said by Dr. Baruch. Let me expand on it from a slightly different viewpoint, however.

Let me make one observation. Before you came in we talked a lot about superconductivity and the new developments in superconductivity, and let me just remind you where these developments were made. Some of them were made in the United States. Some of them were made in China. Some of them were made in Switzerland.

And it really required the total participation of the world community to move this forward in a way that nobody could have predicted even a year ago. So we were depending on work going on in many countries.

I have no problem with keeping our universities open, making sure that Japanese companies or European companies or whatever take advantage of particular research, provided that there is a quid pro quo, that we have access to research that is being done in either their universities or in their Government laboratories.

We cannot have access to their private research, obviously, just like private companies here don't let people into their laboratories, and rightly so. But where public funds is supporting research, like in Government laboratories or in universities, then I think we have got to ask for that quid pro quo. And if that is forthcoming, then I have no problem with keeping our universities open, because we are depending on that interchange of information, especially as other countries are reaching a much higher level of sophistication in basic research than they had before.

Japan has come a long way, obviously. Europe was always there, and China certainly is coming along and is improving considerably. We can learn as much from them as they can learn from us if we are willing to learn from them.

Senator BOREN. Well, I think there is a lot of merit to what you're saying. Politically I can see where this, for better or for worse, is not always adhered to.

I think the problem is as you try to promote spending for basic research and development on the part of the Federal Government—and I personally think we ought to encourage the private sector to the extent that your large organizations can do some, as they should do, because I think diversity is the key to meaningful research and not just control by the Government—but the fact is that you are going to have difficulties, I think, in getting the kind of sums you want if it flows abroad. I am not saying that I agree with that. Don't misunderstand me but I think there is a political problem there.

Secondly, I wonder if you would agree that if, as you said, there should be reciprocity, availability from abroad to here as well, shouldn't there also be some recognition—not some but strong recognition—of intellectual rights? In other words, patent protections, even knowhow, processes are as key in many cases as an outright invention. Shouldn't we at least exact that from those who want to have access?

Dr. BRANSCOMB. I think that is absolutely critical. Intellectual property does have to be protected, and I think we do it pretty well in our Patent and Trademark Office. One of the problems that we have is that we find that the Japanese and others are patenting things at an increasing rate. They too have created intellectual property.

A few years ago we got the Chinese started on a Chinese patent office before they had a legal system to support it. They too see the need to protect intellectual property. And recognize that this is property, but it becomes property when it is invention. It is not property when it is a new theorem, it is not property when it is a new research result.

There is a very strong international definition of when intellectual content becomes intellectual property. Invention can be protected, but the results of basic research by and large are not invention. That comes later.

In fact, if you tried to legislate to stop the flow of research results I think you would be forced in a while to withdraw the legislation because it would become impossible without constraining the actual movement of people.

Mr. BLOCH. In that regard it is also very important that the patent and intellectual property laws of other countries are as open and as fair as ours are, and sometimes they are not.

Senator BOREN. No. That is the nub of the problem.

Dr. BRANSCOMB. Yes. It is important that we have a better chance of getting something patented in Holland than we have in the past, because if Siemens has a competing claim we don't stand a chance. So there you can legislate and there you can argue in the international courts.

Senator BOREN. I am sorry, I didn't quite follow you.

Dr. BRANSCOMB. It becomes very hard in many cases for us to get patents in some foreign countries if a particular company in that country which represents a large part of their industrial activity has a competing claim on the patent. If there is an interference, so-called, we generally lose.

Senator Roth. Yes. One of my Delaware companies is experiencing that very problem.

Dr. Baruch. Lots of our companies have experienced it in the past and will continue to experience it unless we get some sort of treaty obligation.

Senator Roth. Thank you, Mr. Chairman.

Chairman Glenn. Thank you, Senator Roth.

I know we are getting late here and I appreciate your willingness to spend the time here. We are going to end very shortly, but I do have a couple more questions to ask.

The Administration's view of the role of education in promoting U.S. competitiveness is of concern to me. We cut back the Department of Education's, budget from $19 billion back to $14 billion, and then expect us to be competitive in education systems. It is particularly in the area of higher education that we are concerned about because that has become the province of the Federal Government.

We have never really supported elementary and secondary education. That was always the responsibility of the states and local communities and we get into that on a peripheral basis on some things like school lunch programs and other things that comprise maybe 7 percent or so of the overall bill for the country.

But in the area of higher education we have been a major factor ever since World War II and the GI bill, and the experience was beneficial. And so it particularly vexes me when you see the Federal support for education cut back some 28 percent, as I think John Brademas said in his testimony earlier this morning.

That is a statement, not a question, but my question, Mr. Bloch, is with the role of NSF in the area of science and engineering education and the role of the Department of Education. How much cooperative effort and planning goes back and forth into your activities with theirs and so on to make sure we get the best educational bang for the buck out of every dollar spent by the Federal Government?

Mr. Bloch. Well, I will answer that question gladly, but let me make one other comment first which is really a reflection on the first half of your statement.

If you look at the education component within the National Science Foundation, for 1988 that has been significantly increased. So while it is true there were some cuts in other agencies and departments, in the National Science Foundation there were not cuts in education. There were significant increases.

We increased the graduate fellowship program, for instance, by about 40 percent adding 200 positions. We are providing about 1,500 fellowships today, 500 new ones per year, so that is about a 40 percent increase.

We, increased undergraduate education. In fact, we started it in 1987 and we are significantly increasing undergraduate education in 1988. In the pre-college area we are increasing our program by about 10 percent.

Let me address the point of the relationship between the National Science Foundation and the Department of Education. In certain areas I think we have a good relationship. We are jointly funding certain programs.

For instance, with regard to educational television, we funded together "3-2-1-Contact". We also are funding together "Square One," which is a new series on mathematics on public television. I will be very fair and frank about it. We have had a rough row to hoe, no doubt about it. We have had to keep the Department of Education to the commitments they made.

We are supporting jointly educational databases that are very important, both to the Department of Education but also to the National Science Foundation, so there is a certain level of cooperation especially in the two areas that I singled out.

If you look at the President's mandate as expressed in the trade bill that came to Congress, he mandates the Department of Education and the National Science Foundation by name and other agencies not by name to work jointly together on making sure that in pre-college education that the role of science, the role of mathematics and computer literacy be focused on and enhanced.

What that means to us, I don't know yet. We have started to think about that, obviously, but I think out of that mandate will come a closer relationship at least between us and the Department of Education in the pre-college area.

Chairman GLENN. Good. Thank you very much.

One other comment here, too, and I would request your comment on it. In teacher education, I know, you are close observers of the education scene. You have to be in the jobs that you are in, and I wanted to ask John Brademas this, as to whether we should—this sounds like a heretical statement, but I don't think it is when you think about it a little bit—whether we should be de-emphasizing departments of education in our universities?

Now, before I get crucified for that question, let me put it this way. We find our teachers coming out of school with a degree in education and a specific in nothing, and they go to work teaching. However, we have gone beyond the 3Rs in this country where every teacher could at least teach reading, writing and arithmetic, if they had some education training.

Particularly in the math and science area we now find people coming out, many of them teaching math and science, with just a degree in education and what knowledge they can pick up in the other areas.

Are we beyond the point where we can tolerate that? Have we now become specialized enough that we should be requiring teachers to go through discipline training first, whatever it is, particularly in math and the sciences, and then have their education secondary as a minor or something like that? Does that have some merit to it or are we on the right track with our teacher training now?

Mr. BLOCH. I will be glad to comment on it. I think the second half of your question is pointing in the right direction. I don't believe that it is sufficient to have an education degree somebody who wants to teach science and mathematics.

These teachers should have a good grounding in science and in mathematics, and one can get that only through an undergraduate degree in science and mathematics. On the other hand, I think the departments of education in universities have a role to fulfill, namely to teach people how to teach, and that is an important subject. You can be an excellent scientist and an excellent engineer. If you don't know how to teach it does not help very much.

Chairman GLENN. I do not disagree at all, but have we gone overboard in that direction with the emphasis on education and not enough on what teachers are going to teach once they get their teaching degrees.

Mr. BLOCH. Absolutely. We have gone overboard on that and we need to find a better balance. By the way, that has been pointed out by the Carnegie Commission on Education also.

Dr. BARUCH. Senator Glenn, I may be sorry for this, since my wife is a former professor of education at Harvard, but I think she would agree with me. Learning how to teach is critical, but the sorts of things we are going to teach now require not only an undergraduate education but a continual updating.

The physics that you and I learned in school—and you learned it long after I did—would not help us a great deal in teaching high school physics at the present time. So we not only have to have them learn substantive fields, we have to make provision and pay for their updating of their knowledge in those fields. I think that is a role that the Federal Government can well play and that cannot be left to the states because they have a different view of the urgency.

Chairman GLENN. I just could not agree with you more. I think you are right on track.

Another area here, and we have discussed this a couple of times today already, but there are some specifics you can give on the application of research and technology to industry. How do we encourage that interface—or that interlock, it should be.

I wish there was some way to do it, but short of having a socialist society or a communist society where you dictate what is going to happen, or a benevolent monarch or something, I'm not sure how it could be done.

Dr. BARUCH. I have worked with those. Believe me, it does not work there.

Chairman GLENN. That is your area in particular. What can we do that encourages this kind of interface as new ideas come up before they get pirated off and are put in effect from Japan, France, Germany or someplace else that got their technology from us?

Dr. BARUCH. A couple of things, I think. One is to make it easier for entrepreneurs to take the risks of starting new enterprises. Many of the applications that we need are in the area of new enterprises.

Chairman GLENN. Well, how would you do that? That is a good one. I am right with you, except how do you do it?

Dr. BARUCH. You talked about appropriation mechanisms. Let me mention a recommendation that got as far as OMB under the innovation study that I did for President Carter. One of the recommendations was that when you sell a security—at that time we had capital gains—when you sell a security the capital gains tax on that sale be deferred if within 6 months you invested that money in a small high technology or technologically oriented company.

We had some definitions of what was meant by "small" and "technology," but one would have had an incentive to move that investment into an area that would be of national interest. OMB objected and stopped the proposal—gee, it is nice to be able to testify without their review—OMB objected and stopped the proposal because they said that would distort things in our economy. By God, that is just what we are trying to do, to distort things in our economy so that it leads us in an area of national interest.

So I think we can provide the incentives for the start-up of new companies and I think we can provide the kind of training that is needed to make it easier to start up new companies.

Chairman GLENN. Training from where?

Dr. BARUCH. Training from graduate and university level for technology and business in entrepreneurship. I think we can do some risk absorption, which is what DARPA does when it lets contracts for the development of a new product. We can make sure that much of that goes into smaller companies.

Chairman GLENN. Well, we are doing some of this through the SBA and we just recently, but only after a lot of blood letting, stopped them from doing away with that, doing away with the whole SBA.

Dr. BARUCH. That is right. Look, there is a lot of ideological pressure that says go in some other direction. They happen to be wrong, but we have to recognize that pressure exists.

Chairman GLENN. Mr. Bloch, do you have any comment as to how we put this thing in? We are going to have to end here.

I cannot let a hearing like this end and have you two gentlemen before me here without asking what you think—and this relates to superconductivity—where you think this leads us. It is so exciting if you get into this, what can be done? You see the motors this size and electric cars. One that I do not understand—maybe you can give me a little science lesson here this morning—I saw two of the different write-ups—said that this also provides a great new impact on electrical energy storage.

Now that is one that I have been a bug on for many years. This Administration cut out the REDOX program, which I thought really looked promising, at the Louis Lab in Cleveland, which could have had the potential in the future of storing the output of 1000 megawatt power plants, for instance, in non-peak hours, storing it, bringing it back on, and we would not have had to build a new electrical generating plant for the next 15 years, probably. Our plants now run at 50 percent of capacity on average. They are just built for peak loads in the evening and the rest of the time they idle along.

So, does superconductivity have an application there? I followed the supermagnets and the small motors and things like that, and I can see they are of enormous benefit. You cannot even estimate what is going to happen out of some of these applications, but the energy storage lost me. What is the principle there?

Dr. BARUCH. You mentioned supermagnets. A magnet with a circulating current is an energy storage device. It stores a current that is flowing and can be tapped in the future.

Now whether the superconductivity that we are working on now has any application to that at all, I doubt, because the large fields that are usually necessary tend to break down the superconducting capability.

Chairman GLENN. What do you see as the major applications of this that might come out say in the next 10 years? Brain storm a minute here for us, and this is not directly part of the hearing except that it is just fascinating to me.

Mr. BLOCH. Well, I think there are a number of applications that one can postulate. By the way, let me say one thing right from the beginning.

Chairman GLENN. If you have an expert bring him up to the table here, if you are motioning somebody up, fine.

Mr. BLOCH. A lot of very important work still has to be done. What has been discovered so far is that materials do exist that exhibit superconductivity at relatively high temperatures. We are a long way from knowing how to make these materials into productive devices. What one needs for many of the applications are new wires with very special properties that simply do not exist now.

So they have to be developed and it could be a long way off. I just want to take a little bit away from the hype that you hear about it.

Chairman GLENN. I know there is an awful lot of hype and expectation here that may take many, many years to bring to fruition, but it is a breakthrough that is enormous.

Mr. BLOCH. On the other hand, the benefits could be very great. Let me give a few examples. First of all, in computers, the example could be very significant: Interconnection capabilities, wires between circuit elements that are not dissipating power, and mean a tremendous amount to the packing density, to the power consumption of computers, as well as to the speed at which computers operate. If entire elements in computers could be made out of superconductive devices, that could have a great performance advantage.

The whole area of electric power transmission and power generation obviously is a very important area. Today there are already transmission systems that use superconducting lines, but they are very, very expensive because they have to be operated at very low temperatures at all times. Obviating that need could make the superconductive much more generally applicable than it is today.

Chairman GLENN. Do we see any application yet that would be long distance transmission?

Mr. BLOCH. Sure.

Chairman GLENN. We have 765,000 volt transmission lines now just to try and get the stuff out farther from where it is generated, and then we run into all the problems of scaling up and scaling down with it. Would there be applications now that we could see that would take it out say 1,000 miles or 1,500 miles from a generating plant?

Mr. BLOCH. Absolutely. You can do that today, really, with superconductive wires except it is expensive, so the economic tradeoff is not there.

Chairman GLENN. Dr. Baruch.

Dr. BARUCH. Senator, one of the reasons DARPA has been successful is it has never blanched at employing very bright, brilliant, inventive people. In the room we have the Chief Scientist for

DARPA. Would it be possible to invite him to use a little brainstorming of his on that question?

Chairman **Glenn**. Absolutely. Come on up.

Dr. **Baruch**. Craig Fields.

Chairman **Glenn**. I am going over to DARPA one of these days for a briefing anyway. I have already talked to the director over there a short time ago.

Come on up to the table there, unless you would prefer not to, but we would welcome you joining us. This is a conversation more than testimony this morning.

TESTIMONY OF DR. CRAIG FIELDS, CHIEF SCIENTIST, DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

Dr. **Fields**. I will tell you a little bit about what we are doing, but the problem really is that we deal with a lot of company proprietary information on process, and so we will have to deal separately with the contents of that.

But I think the fundamentals you have got are exactly right, namely that the issues are manufacturing issues and to a very substantial extent, because these new materials are ceramics, and as ceramics there are a lot of problems in dealing with them.

We have been working on ceramic composites, using polymers to reinforce ceramics and so on for other applications for years, and what we are doing right now is looking at those processes to see whether applied to the new ceramics we can retain the electrical properties while getting them to be less brittle, doing precise manufacturing and so on and so forth.

The kinds of applications you talked about are exactly right. It is worth noting that as far as I know not one application for the new material has been worked out quantitatively. That is to say, in a real system way, with it we can do this, without it we cannot.

We have a study going on that is going to be completed, I think in about a week, working out several that are defense related—not for the civilian sector—that will give us some useful data. The technology itself is broader than that, of course, and we will see.

Just one that may be close to your heart that was not mentioned and I would like to bring up is that room temperature in space is the right temperature for working with these materials if you are not in direct sunlight. And so we are pursuing a lot of satellite applications for the technology. That could be very exciting.

Chairman **Glenn**. Believe it or not I had not even thought of that, but that is true. On the dark side of the spacecraft you would be right at the temperature where this would be operable right now.

Dr. **Fields**. Exactly right.

Chairman **Glenn**. I had not even thought of that. That is right. You are around minus-270 on the dark side and about plus-270 on the sunny side, so you are right at your operating temperature.

Dr. **Fields**. In fact, it is better than you need to be. There is a whole long conversation we can go into later about it.

Chairman **Glenn**. Good. On the energy storage, do you see any use immediately or is this a longer term development? If we could get better electrical energy storage, both for mass amounts and amounts for electric automobiles—if you get an electric automobile that has got more than the current 35 or 40 mile range to it—if we just could make a breakthrough where you have 4 or 5 hundred miles range before you have to get whatever it is charged up again, then we have really revolutionized mobility, both militarily and for the civilian too.

We have worked on this many, many years. Electric cars are not quite practical and the old lead acid batteries go down to half their capacity in cold weather, so I do not want to be half way home on the GW Parkway and wind up a pedestrian the rest of the way in the middle of the winter.

Do you see any breakthroughs in the energy storage area, in both small and mass amounts?

Dr. FIELDS. Well, it seems to us that the 2 most likely things in the near term and in high intensity magnetic fields and in the dispersion-free transmission lines that Dr. Bloch was talking about. That will come later, but it is a little harder problem.

Dr. BARUCH. But in line with what you are talking about, you mentioned the REDOX program, which I think was a critical one and a dumb one to shut off. But there are other very potential devices. One is, industry has done experiments with very small high capacitance plastic capacitors that store an enormous amount of energy per unit volume.

They do not do it conveniently and we have not been very successful in scaling them up, but I think if we took at good hard look at them we would come up with some surprising numbers. For example, if we could store up what we now do in something the size of a dime, it would be conceivable in the size of a 2D-cell flashlight to power a 100-watt bulb for about 8 hours. That is energy storage. We do not know how to get there. It is a manufacturing problem and it is a design problem.

Chairman GLENN. They had another one that I was a little entranced with for a while too out at Lawrence Livermore on the aluminum-air battery, they called it, and you had to sort of expand your idea of battery to make that be a battery, but it was a system that was very interesting. You did not have a way to take your aluminum oxide result of that and reform it back at stations around the country, but theoretically with what they had done you could take a set of aluminum plates of a certain type about that long and about 7 or 8 inches on a square here and about a yard long and the energy you could theoretically get out of it would power an average size automobile to drive about 3,500 miles, as I recall, something like that.

Well, that program was chopped too. Granted, it had a way to go, but the concept was there. And to cut back research on something that has that enormous potential, to me was just crazy.

Dr. BARUCH. There was also the aluminum sludge battery where you could actually pump the material out of the tank and pump new material back in. You are right, but tell me Senator, where in this Government in our organization do we have somebody that is concerned about this confluence of this kind of research which is no longer basic enough to attract the physicist who wants tenure in the university——

Chairman GLENN. In the new department of science, technology and commerce.

Dr. BARUCH. Get the science out of there.

Chairman GLENN. I made one breakthrough this morning, anyway.

Dr. BARUCH. Thanks. Let Erich handle the science.

Chairman GLENN. Well, we could go on, obviously, all day on this thing because it is something that is intensely interesting to me, obviously, and to you gentlemen too.

I just see the potential for this and it does fit back in. It is not all just pie-in-the-sky we are talking about, or unrelated matters here. It involves our competitiveness as we learn these new things and are able to put them to work.

This interface, or I wish it was an interlock, as I said before, I believe the message has to get through, it is there. And I don't know quite how to do that outside of some sort of—I don't know—a dictatorship or some kind. But we need to do a lot of work on it, anyway.

Do any of you have any additional comments you wish to make before we end.

Dr. BARUCH. Just to say thank you for the opportunity, Senator.

Chairman GLENN. Thank you, Doctor.

Mr. BLOCH. Thank you, Senator.

Chairman GLENN. Thank you all for being with us and bearing with us for this long. It has been a rather disjointed hearing this morning, unfortunately, but not of my design.

Thank you very much and I would appreciate you responding to any questions other Committee members or staff may have so we can include those in the record of this morning's hearing.

It has been fascinating this morning. I have really enjoyed it, and thank you very much for being here.

The hearing will stand in recess subject to the call of the Chair.

[Whereupon, at 12:27 p.m., the hearing was recessed to be reconvened subject to the call of the Chair.]

GOVERNMENT'S ROLE IN ECONOMIC COMPETITIVENESS

TUESDAY, APRIL 7, 1987

U.S. Senate,
Committee on Governmental Affairs,
Washington, DC.

The Committee met, pursuant to notice, at 9:35 a.m., in room 342, Dirksen Senate Office Building, Hon. John Glenn, Chairman of the Committee, presiding.

Present: Senators Glenn, Heinz, Bingaman, and Sasser.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman **Glenn**. The hearing will be in order.

This morning marks the last session in this Committee's initial set of five hearings on the U.S. international trade and competitiveness. Over the course of the last 2 weeks we have heard from a variety of witnesses including members of the administration, academic and public policy experts, leaders in the research and scientific community, and educators. Today we will hear from representatives of private industry and organized labor.

As these hearings demonstrate, the competitiveness problem our Nation faces is not a simple trade problem. Rather, it is a multifaceted set of problems and includes long-run issues related to education, research, science, technology and other things. For this reason, the solutions we need to devise must be not only multidimensional but also fundamental and enduring.

They also have to be, I would add, not just short term, but long term also. What our status will be on down the road 15 or 20 years from now will depend upon the policies that we set today long term as well as short term. Thus, while Government reorganization, for example, could be helpful, we must recognize it is not a substitute for bona fide substantive reform. By the same token we must guard against solutions which enlarge rather than reduce the Federal budget deficit.

This is not to suggest that Government does not have a significant role to play in promoting competitiveness. Indeed it does, and it is the purpose of these hearings to determine what that role should be.

It is already clear from the hearings we have held so far that some of the policy responses which may be required, while creating net benefits for the country as a whole, could impose costs on some segments of our society or on a certain geographic area.

The challenge for Congress, of course, is to fashion policies that minimize these costs, but ultimately we must devise policies on a national basis and this means resisting the temptation to cater just to special interests. It is in this spirit, I hope, that we can forge ahead and reach consensus on what needs to be done.

We are very fortunate to have with us this morning Howard Samuel, president of the Industrial Union Department at the AFL-CIO and Alexander Trowbridge—Sandy Trowbridge—president of the National Association of Manufacturers.

Senator Bingaman is our ad hoc chairman who follows these things on a day-in day-out basis also and has led the Democratic Caucus in study of competitiveness in our international trade relations.

Senator Bingaman, do you have any comments you wish to make before we start?

OPENING STATEMENT OF SENATOR BINGAMAN

Senator BINGAMAN. Thank you, Mr. Chairman, I do. I want to welcome the witnesses today and review a little of the series of four hearings we have had so far.

I think one clear concern that I have developed in the course of those four hearings is that I do not sense any real feeling of urgency on the part of the Administration in dealing with our competitiveness problems.

I think there is, of course, an acknowledgment that something needs attention and the President has a proposal out which is intended to deal with the problem. Secretary Baldrige made the point to us that they expect the trade deficit, perhaps, to come down about $30 to $40 billion this year and again next year, but getting it below $100 billion is going to be very, very difficult.

That is not exactly encouraging. At least from my perspective it is a little disturbing. If we continue to run a trade deficit in that range—$100 billion or more—for a substantial period of time, I think the inevitable result is a lower standard of living for the people of this country as we try to pay off, or as future generations try to pay off that deficit.

One of the proposals that we have talked about here and we have asked you folks to comment on is the establishment of a Permanent Council on Industrial Competitiveness to focus the attention of policy makers on this complex of problems.

The Council would be an independent body. It would be totally advisory, but it would hopefully allow us to maintain this issue on the national agenda regardless of the other changes that take place in our Government over the next several years. Our hope would be that it could, on a nonpartisan basis, advocate solutions and keep our attention focused on the problem.

I will be interested in the comments of each of you on this proposed Council on Industrial Competitiveness. I would also like to hear your comments on the suggestion that impact statements be required whether that makes sense or whether that is just more bureaucratic red tape. I think those are key issues that this committee needs to come to some decision on so that we can determine what to report out as part of our portion of the Senate's competitiveness package.

I compliment the Chairman on the whole series of hearings and I look forward to your testimony.

[Senator Bingaman's prepared statement follows:]

PREPARED STATEMENT OF SENATOR BINGAMAN

Thank you, Mr. Chairman.

I am pleased to join with you in welcoming Mr. Trowbridge and Mr. Samuel here today. This is the last of a series of five hearings on the role of government in economic competitiveness. However, this is not the end of this committee's interest in the issue. I would like to repeat what I said at the beginning of these hearings: competitiveness is an issue that will not and should not fade away after we pass a trade bill. I look forward to continuing hearings on the issue throughout the year.

As has been stated throughout these hearings, words of the President's Commission on Industrial Competitiveness are as true today as they were two years ago. "Americans must take on the challenges of competitiveness as *the* economic agenda for the next decade." I am disturbed, however, that the Administration has not taken this message to heart. I am especially disturbed by the lack of urgency expressed by a number of the administration witnesses. Secretary Baldrige told this committee that he expects the trade deficit to come down by $30 to $40 billion this year, but that getting it below $100 million will be difficult. Yet, this is exactly what we must do, or the laws of economics will do it for us. In that case, the results will not be pleasant.

The choice is clear. We can continue to ignore the problem or hope that macroeconomic policies will solve the problem. In either of these cases, I fear we will be forced to accept a lower standard of living simply to pay off our foreign debt. The alternative is to move forward with an industrial strategy of our own. These hearings have strengthened my belief that we can and must move forward. To do so will require structural changes in the way which we make decisions on competitiveness policy.

One such change should be the creation of a permanent Council on Industrial Competitiveness to focus the attention of policymakers on the problems of competitiveness. As I envision such a Council, it will provide the needed forum in which issues can be debated and solutions devised. The Council, as an independent body, will be able to view governmental actions removed from the heat of the political battle, yet advocate solutions based on experience and impartial analysis.

The Council on Industrial Competitiveness is not the solution to all the structural problems of policymaking. No one mechanism is and can be the complete answer. The Council is necessary, but not the total answer. We still need a policymaking system that can lead us into the future rather than simply respond to the past. I would hope that the witnesses today will give us their views on this and other proposed changes to our policymaking process. And I look forward to continuing these discussions throughout the year.

Chairman GLENN. Thank you very much, Senator Bingaman.

We appreciate your cooperation this morning, gentlemen, in appearing together. Both of you rate and ordinarily should have a whole time period set aside just for each one of you, a whole morning for us to really explore your views in depth, but with the time constraints on the trade legislation being what they are, we appreciate your willingness to appear together here and be together so we can have a discussion here this morning about this, back and forth between you, us, and the other Senators or staff that will be here today, so we appreciate it very, very much.

Mr. Samuel, do you want to lead off this morning with your testimony here, either an abridged version or the complete statement. In either event your entire statement will be included in the record.[1]

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[1] See 462.

TESTIMONY OF HOWARD D. SAMUEL, PRESIDENT, INDUSTRIAL UNION DEPARTMENT, AFL-CIO

Mr. SAMUEL. I will take advantage of that offer, Mr. Chairman, if I can and simply summarize the first few pages of my statement and then spend a little bit more time in reviewing the Council on Competitiveness which is what your great interest is.

Let me just say that I represent the Industrial Union Department of the AFL-CIO, which has 53 national unions affiliated with it with about 5 million members, and we were among the first to feel the effects of our lack of competitiveness going back—since I come from the Amalgamated Clothing Workers, we had an industry that was one of those first affected—going back to 1961.

Over the years I think we have learned quite a bit about the problem of competitiveness, partly, as I indicate in my testimony, through some of the writings of Prof. Bruce Scott and George Lodge of Harvard, and also, I think, through the work of the President's Commission on Industrial Competitiveness of which I was a member.

Number one, this is not a recent problem. The phenomena which Senator Bingaman referred to, the loss of market share, the gradual rise in our trade deficits, the loss of jobs, the deindustrialization all go back 15 or 20 years.

For years we were told by those in academia and even in some of the newspapers and the other media that these were just temporary phenomena, either we would have to get rid of industries or we couldn't compete. They started with the nondurables, apparel and textiles. Gradually they added auto and steel and other industries to the list of those to be sacrificed. Eventually, of course, we found that there was no industry that was immune.

So number one, this is an old problem, not a new one. And number two, it is a very broad problem. It involves not only trade and the problems in connection with our trade legislation. It involves also our educational system, our failure to keep up with our trade competitors in connection with research and development, the availability of capital and so forth and so on.

I think over the years we have begun to learn that the problem of competitiveness is a very broad one involving quite a spectrum of elements, almost everything we do in our economic arrangements.

Finally, I think we are now, I hope, more aware of what the real meaning of competitiveness is. The President's Commission, I may remind you, was not exactly a labor-dominated group. There were 29 members and 3 of us from the labor community. But on the whole we felt quite comfortable with the report because it started out with a very careful definition of what competitiveness is and what it is not.

Clearly we are not going to achieve competitiveness by lowering our standard of living. The whole point of being competitive, the whole point of being able to make our way in the global marketplace is to maintain and enhance our standard of living.

As I mention in my testimony, the company which decides to become competitive by buying components from Taiwan or moving its assembly operations to Mexico may be winning the battle of its own bottom line, but it is losing the war of competitiveness for America.

Corporate leadership which forces down worker's wages may be able to maintain its traditional profit structure, but it is undermining the standard of living, which is the foundation of our strength.

So with these three notes regarding the meaning of competitiveness and some of the basic problems, let me go to some comments regarding the council which is recommended in S. 271.

First of all, I am pleased to note that it is a permanent organization in recognition of the fact that we will be confronting the global challenge for the indefinite future.

Second, its duties and responsibilities are broad enough to meet the manifold elements which comprise the competitiveness challenge, ranging from meeting the need for better information and monitoring our industrial performance to developing recommendations and building consensus agreements for future actions.

Third, its members are appointed by the highest officers of our Government, giving the Council an appropriate degree of prominence, attention, and recognition.

Fourth, the Council will represent all sectors of society, including State and local government and will be able to reach out beyond Government agencies for needed staff skills and experience.

Fifth, it will have the authority to establish subcouncils in order to focus attention on the problems of individual sectors or areas in recognition of the fact that many problems often require sector responses.

It is important that the Council be able to function in relative independence of the Government. By enabling the Council to choose its own staff and by providing it a budget to pay for staff and needed consultants, the proposal largely accomplishes this goal.

However, if the Council is independent of Government, it should not be ignorant of Government concerns or unaware of Government plans. For this purpose I would urge that four Cabinet officers be appointed ex officio members of the Council, including the Secretaries of Commerce, Labor, Treasury, and the U.S. Trade Representative.

It is important, too, that private sector members be truly representative of the sectors their appointments are derived from. For this reason I recommend that a clause be added requiring that the appointing officers consult with the principal associations in each of the sectors prior to making the appointments.

Mr. Chairman, the competitiveness problem, although it has a comparatively brief history, is likely to remain with us for the indefinite future. It is complex, it is comprehensive. We will not be able to solve it overnight, but we must start immediately. I believe it is imperative to enlist the talent, the experience, and the support of the private sector in our efforts. The Council on Competitiveness could become the keystone of this cooperative effort. It deserves the support of the Congress.

Thank you.

Chairman GLENN. Thank you very much.

Mr. Trowbridge.

TESTIMONY OF ALEXANDER TROWBRIDGE, PRESIDENT, NATIONAL ASSOCIATION OF MANUFACTURERS [1]

Mr. TROWBRIDGE. Chairman Glenn, Senator Bingaman, thank you for this opportunity to join with my friend, Howard Samuel, to discuss, as he has, the very important subject of competitiveness. I commend you and the committee for the focus and the spotlight that you are putting on this area of national concern.

I do believe, Senator, that it is getting more attention. It is a buzz word, perhaps sometimes inaccurately used as a Christmas tree on which one can hang almost anything you want. But I think there is a sense of urgency and of recognition that it is a major problem of long standing and of many facets.

Your letter of invitation to the hearing, Mr. Chairman, asked how should the competitiveness problem be defined? It really, I think, is two questions: First, what is competitiveness; and, the second, is it a problem?

At the very simplest level, competitiveness, which is an international concept, is the ability to sell one's goods and services in the international marketplace. For individual firms, it is a relatively easy definition of being able to sell against foreign competition, which may be enough. But for nations it really is not.

This fact I think was clearly recognized by the President's Commission on Industrial Competitiveness, chaired by John Young, which used in their report a definition which said:

"Competitiveness is the degree to which a nation can, under free and fair market conditions"—and I have to stop for a moment and say the world is not always free and fair in its market conditions—a nation "can produce goods and services that meet the test of international markets, while simultaneously maintaining or expanding the real income of its citizens."

It is this national definition of competitiveness that should concern us. In a real sense, it is not firms or governments or educational institutions that compete in the international economic arena, it is societies.

Now long ago, we conducted a survey of our NAM Board of Directors in which we asked them if they believed that America's flagging competitiveness characterized by a 1986 trade deficit of $170 billion constitutes a national crisis, and overwhelmingly these business leaders said yes.

Our board and our members are convinced that major steps need to be taken to deal with this crisis. Many of these are set out in our pamphlet called "Competing in the Global Economy," which I have included as an attachment to my testimony.

Indeed, the first three steps we have identified as critical to improving America's competitiveness are not really directly related to U.S. trade policy. They are, first, a clear and highly visible commitment by the President to enhancing American competitiveness as a long-term national goal; second, a recognition that manufacturing is the key to this crisis; and, third, a reduction in the Federal budget deficit which is that big black cloud that hangs over everybody's sense of concern with the economy.

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[1] See p. 469 for Mr. Trowbridge's prepared statement.

The point that manufacturing is at the heart of U.S. trade borne out by the 1986 manufactured goods component which was about 68 percent of U.S. exports and 75 percent of U.S. imports. Our trade deficit in manufactures of approximately $145 billion was equal to fully 85 percent of the total 1986 trade deficit.

Any significant improvement in U.S. trade will ultimately have to come from improvement in our trade in manufactured goods. Trade in agriculture and services are important, but neither has the economic potential to turn our trade or current account deficits around, and therefore we feel that manufacturing is the key.

It is important to recognize that the U.S. trade deficit in manufactures is not simply the result of increased imports of basic-industry products. Evidence of erosion in U.S. industrial competitiveness can be found in virtually every industrial sector. It is pointed out by the shift in our trade balance in high-technology products, where in 1981 we had a $27 billion high-tech surplus, which slipped to a surplus of only $5 billion in 1985 and a $2 billion deficit in 1986.

There has been little in the 1987 trade statistics to offer any encouragement, but the generally accepted view that we will see an improvement in 1987 on the order of $10 billion or more is probably correct. But as you pointed out, Senator, it is nothing to cheer about. This break in a string of record U.S. trade deficits may create a tendency to see America as having turned the corner and our worse troubles are behind us. But the trouble is still developing.

The broader measure of our economic performance is the current account, and here the 1987 deficit is likely to be worse than 1986's $140 billion. As most people know, and as we will all come to understand more profoundly in the future, our habit of buying more from foreign countries than we sell to them has been financed with foreign borrowing, and the bills are coming due.

The New York Federal Reserve Bank expects that this debt will rise to half a trillion dollars by 1990 and that servicing it at today's interest rates will cost some $35 to $45 billion per year. Even if our manufactured exports grow at a rate of 10 percent a year for the next 3 years, it will take 20 to 25 percent of our exports simply to pay the interest on the debt.

Clearly, we are going to need a great surplus. It is our view, expressed in a recent resolution of our Board of Directors, that a trade surplus through trade competitiveness, that is, not through protectionism, should be a national goal. A copy of that resolution is also attached to this testimony.

I think that from strongly interventionist Democrats to very hands-off Republicans, most Americans agree that Government can only do so much. It is not governments but societies that compete. It is companies and unions and schools and colleges and R&D labs and management and labor that really make up easily 50 percent of the problem and have to be 50 percent of the solution.

The Government, however, exerts great influence on our economy, certainly more than anything else we can control, and the character of that influence depends directly upon the organizational structure of government itself.

The National Association of Manufacturers has for many years been convinced that many of the problems which have beset us in international trade could have been avoided, or their harm to U.S. economic interests lessened, had we been better prepared and organized to deal with them. Specifically, we believe we need a Department of Trade, modeled along the lines of the Department of International Trade and Industry described in S. 330.

This idea is not a new one. It has been with us for some time and will be with us until it perhaps becomes a reality. Whenever a Trade Department is discussed, the question arises: is the advocacy of a new department a criticism of those who currently administer U.S. trade policy? I cannot speak for others, but this is not the case in our presentation. We believe that the current team has made some real strides in dealing with the difficult conditions we now confront.

We were pleased, for instance, with the September 1985 "Plaza Agreement" and with the general thrust of U.S. exchange-rate policies in the period that followed that agreement. We supported the semiconductor industry's section 301 petition, and we commend the U.S. Government for the manner in which that case has been handled.

Our motivation is really more long range, however. Our concern is the ability of the Government to fashion and implement trade policies that really do serve U.S. interests. One does not have to look very far back to demonstrate that the current structure has not been working. Whether one's subject is the exchange rate—where we endured costly years of not having a policy of any kind—to export controls, export finance, or the Foreign Corrupt Practices Act, it is easy to find examples of seriously flawed policies that came about in part because America does not have a Trade Department or a Secretary of Trade.

Before leaving the subject of export finance, I think it is important to note the effort in the Senate Budget Committee to do away with Eximbank's Direct Loan Program, which we oppose, because in a year in which Congress is trying to pass a major legislative package to improve U.S. trade and export policies, it would be a sad irony if the Senate committee undermined the most positive Government program directly supporting U.S. exports. Other industrial nations' export financing are virtually an entitlement program.

Returning to the larger issue of the Trade Department, governmental departments are, among other things, expressions of national priorities. Yet, we do not have a senior Cabinet officer for trade, one who can command the resources of a full government department and who is charged with defending and advancing American trading interests.

At the very least, such an official could and almost certainly would make two critical contributions to U.S. policy. He or she, simply by bearing this title, would establish the fact that the United States is paying attention to trade in a way that we have not done before. Secondly, the existence of a trade department would ensure that the trade and competitiveness implications of events and perspective policies would get high-level consideration.

In practical terms, a Trade Department would greatly inhance the efficiency of Government because it would combine within a single institution the responsibility for negotiation of international trade agreements, the implementation of U.S. trade laws, and analyses of U.S. competitiveness in all industrial and service sectors. Having these responsibilities in two separate agencies, as we do now, cannot help but render more difficult the conduct of U.S. trade policy.

It is not critical that we establish a Trade Department this year, and I would be the first to acknowledge that there would be costs to doing so. I would note, however, that there seems every likelihood of actions being taken this year that express the underlying frustration that many in Congress seem to feel over the current role of the U.S. Trade Representative.

Bills pending in both the House and the Senate would authorize or direct the USTR to assume responsibilities now vested in the President. In short, these bills would treat the USTR more like the head of a department and less like an unencumbered adviser. Even if enacted, these proposals will not solve the problem, because if Congress wants a trade secretary it is just going to have to create one.

On a related point, I believe that S. 330 takes the right approach by creating the new position of Adviser to the President for International Economic and Financial Policy. That proposal makes sense both because the adviser's scope goes beyond simple trade policy and because the adviser is only an adviser, not a negotiator or large-scale administrator.

Another new idea I would like to talk about is the proposal for a Council on Industrial Competitiveness which is proposed in Senator Bingaman's bill, S. 374. The idea that there should be a permanent prestigious body concerned with global competition and America's economic future is meritorious indeed. There is a gap today between our faith in markets and the chilling wisdom of Proverbs, "Where there is no vision, the people perish." It is a gap that a high-level body, respected by the President and the Congress, could fill or begin to fill. A Council on Competitiveness could be relied upon to provide fresh thinking and occasionally to lend support to important ideas that, absent a respected neutral advocate, might not be politically viable.

I might digress for a moment to remind the Committee that there is a new Council on Competitiveness in the private sector. Under John Young's chairmanship, it has now really gotten organized with a series of national affiliates tied loosely to it, and with a counterpart in the Congress, a Congressional Competitiveness Caucus, with which I am sure you are very familiar.

I think this is a good step, certainly indicative of the importance of the subject and the concern on the part of corporate, labor, academic leadership across the country.

I think, though, that the Council on Competitiveness as proposed in S. 374, it would be a mistake to give an independent counsel operational responsibilities which the current version of the bill would do. The job of a body of this type should not be to pass on, or even advise on, individual requests for assistance. Responsibilities of that type simply duplicate decisionmaking processes that are better located elsewhere in the Government, and they detract from the broad policy concerns that are the principal justification for a Council on Industrial Competitiveness.

Mr. Chairman, we are still considering some of the proposals you forwarded to me along with your letter of March 30. There are some ideas, however, which I have no hesitation endorsing at this point. One of these is the proposal for trade impact statements to be prepared by Government departments. As described in S. 489, these would be required in connection with major administrative actions and for administration comments on legislation.

Another very good proposal is the one for a National Trade Data Bank. Most of the information to be collected and made available by this agency has a clear potential for helping both policymakers and business people.

In conclusion, Mr. Chairman, you asked in your letter of invitation what Government should do to maximize U.S. competitiveness. I have commented on only a few such actions, though others are listed in the attached 12-point program. In a larger sense, however, it is not possible to give an exhaustive answer to this question. It is one we and our children will be concerned with for many years to come.

The important thing is that we accept the challenge that faces us and commit ourselves as the President has recommended, weathering the next century having achieved a level of excellence unsurpassed in history. Government cannot do it all but, to quote the President again, "we should ensure that Government does everything possible to promote America's ability to compete."

Mr. Chairman, thank you for the opportunity to testify this morning, and I would be glad to join with Howard in trying to respond to your questions.

Chairman GLENN. Thank you very much, gentlemen.

We will follow our 10-minute rule this morning. You both favor a Department of Trade of some kind. Mr. Trowbridge, in your testimony you say that there may be costs associated with creating such a Department, particulary at first. What types of costs do you foresee and how large might they be? Are there negatives to creating a Department of Trade? Turn around and argue the other case, if you would.

Mr. TROWBRIDGE. I think Howard would rather argue the other side of the case, Mr. Chairman. I refer to costs as being those which I think come about with any major structural change in Government. You rearrange the organization charts, you take portions of governmental activity out of one department in order to put it into a new Department. This would be disruptive in timing and to some degree in the policy formation process, but it seems to me that those costs would be justified. I do not know how to quantify them.

The physical facilities probably already exist. It would be a matter of fitting together the various portions of the government trade policy mechanism into one general area, if not into one particular building, but more important, get them working together so that you have the policymaking framework and the implementation framework in the same ball park.

Chairman GLENN. How about a council for trade matters as opposed to a department—could we do most of the job with a council? I know that you stressed that you wanted trade matters elevated to the Cabinet level so that they get equal attention with all the other functions of government; I do not disagree with that at all. Do you see a council as being able to perform that same function as well or nearly as well, so that we do not have to go through a whole reorganization of departments?

Mr. TROWBRIDGE. I think that would be possible. I would hope that the Economic Policy Council which exists today might be a vehicle already in place and useful for this purpose.

There is, obviously, history in the White House of setting up special international economic affairs advisers and others, each intended and to some degree successful in bringing a focus at that central spot for coordination of policy and for rationalizing the inevitable conflicts among various parts of the government that have approached policy problems differently.

My preference is for a Council on Competitiveness at the White House level made up of Cabinet officers, operating as a reflection of the President's will. There I think is the key; if the President is going to put this on a top priority basis and set a goal, and say we are going to be 5 years or 10 years from now in a position of revived economic strength and ability to compete, then that would be indeed a reflection of that commitment and help make it come about.

Chairman GLENN. Mr. Samuel.

Mr. SAMUEL. Mr. Chairman, I think I could make a good case why a Department of Trade could be counterproductive for the purposes I think that we all are looking for, and that is to raise trade issues to a higher level in the consideration of the administration.

In the pantheon of Government agencies, there is only one factor which raises a department or an agency above the others and that is to attach it to the White House, otherwise all departments have more or less the same cachet.

It seems to me that making the Department of Trade just another department along with the Department of the Treasury, the Department of State, would make it even more vulnerable to other departments which really are not as concerned about international economic competitiveness but are more interested in other elements of our international relationships, but actually weaken our ability to be more competitive. Our preference would be to see the USTR continue as the President's spokesman and leader in terms of trade, but to give him more authority, which is included in some of the trade bills now being considered in the Congress, so that he can carry out the President's wishes more effectively.

The other reason I would be opposed to a Department of Trade is that trade, like a few other issues that we deal with, taxes is another one obviously, does enlist the interest and the concern of every sector in society. I would hope that the Departments of Labor and Agriculture, which have strong constituencies, would continue to have a voice in our trade decisions. They do so when they are one of a number of departments or they are two of a number of departments which are able to express themselves to the USTR and in effect the White House.

If the Department of Trade is established, my assumption is that other departments might not be as able or as effective in advancing their particular interests and making sure they are heard.

Chairman GLENN. I have not really decided in my own mind which side of this I come down on yet, so I am really exploring ideas here. But I would submit—and I have asked Mr. Trowbridge to comment on your statements in a moment here, but I would submit things have changed somewhat. If we go back to colonial days in this country, it made little difference at a little colonial town whether anybody even came through from one year to the next or not. They were basically self-sufficient. The buggy making was down the street and the cabbage grower was down in the valley perhaps, and they slaughtered their own meat and that was it. Then we gradually developed to where the cobbler was New England, the buggy maker was Detroit and the cabbage grower was California, and now what has happened. Now, in the last 20 years or so, we have gone to a global community, whether we like it or not. We no longer have the option of being an isolationist country and the cobbler is now Korea and Italy, the meat purveyor is Argentina and Australia and New Zealand, and the buggy maker is 25 percent outside of our own country and getting larger.

So it seems to me we are in a different time frame here, and I do not think we can just say that, as you say, agriculture and commerce have been adequate in the past and they have their constituencies so they will be adequate to the task of the future. Would you make any comment in return on that, or was this a fair analysis of things?

Mr. SAMUEL. I do not think necessarily the work of some of the departments have been adequate, but I am not sure that the answer to our problem is simply to rearrange the boxes in our Government.

Chairman GLENN. I agree. I do not want to change the wiring diagram just to change it, so we show we are addressing a problem by the old Washington method of forming a new committee or a new commission. It does not solve the basic problem.

Mr. Trowbridge, would you comment on what I just said?

Mr. SAMUEL. Could I just add one comment, if I could?

Chairman GLENN. Certainly.

Mr. SAMUEL. I served for 3 years as Deputy Under Secretary of Labor responsible for Trade and International Affairs, and that gave an opportunity for labor to have its voice heard as the Government made decisions on trade. That does not mean the Government should not make decisions, should not make good decisions. When the Government makes a decision in the area of trade, which is so vital to so many sectors, they should at least be aware of the feelings of the working people, of farmers and other elements in the community. I think that is best served by having the final decisionmaking process in the White House itself.

Chairman GLENN. Mr. Trowbridge?

Mr. TROWBRIDGE. I can understand the argument that Howard has made. My service in the Johnson administration in the Commerce Department gave me a look at some of the ways in which the conflicting interests were forever stalemating each other. It seemed to me then and now that we have the need for an umbrella operation in which all of those various factors, including the Agricultural, Labor, Interior, Treasury, all have input into the international trade and economic policy formation. But if that policy formation and implementation function were put together in one Department and the President would be able to have that Department as his primary vehicle in this international competitiveness marketplace, I think the country would be better served, Mr. Chairman.

Chairman **Glenn**. In the minute or couple minutes which I have left, let me bring up some other factors. I agree with you that rearranging the deck chairs does not do any good if we are on the *Titanic,* and I would submit that no amount of reorganization of government is going to prevail in helping us very much if we let our education become second rate compared to other nations, and if we let our basic fundamental breakthrough, seminal, Nobel Laureate-type research slip. The average industrial executive in this country is faced with a dilemma in some respects, because he or she is expected to perform bottom-line in 3 to 5 years of tenure. Our CEO's do not have the 15- or 20-year tenure that some of our competitors have abroad, and so all too blessed few of our industrialists really put money into the basic longtime research. The Bell Labs-type thing, Monsanto, IBM, Du Pont, 3M, TRW, some of our people do put the 8-, 10- 15-year research programs together and stick with them through thick and thin, and bless their souls for doing that. But most of our basic research has come from Government in this country, and the major breakthroughs have come from Government support, and I would submit that no organization is going to cover up for us, if we do not get back with it in education and in basic research.

If there are two things I am critical of this administration on, more than anything else, it is cutbacks in support for education, higher education that came to be the province of the Federal Government, and basic research that they tried to chop the devil out of in the first year of this administration, and fortunately Congress stopped much of it.

But unless we have support in those areas across the board I do not think any number of new departments or wiring diagrams is going to change or help our competitive position.

I took my time here with my statement and I will get back to this question, but rather than having you gentlemen reply, I will get back to it a little bit later. If you have a very short comment, OK, because I am over my time.

Mr. **Trowbridge**. I would just say amen, Mr. Chairman.

Chairman **Glenn**. All right.

Senator Bingaman.

Senator **Bingaman**. Thank you, Mr. Chairman.

Let me ask question on the two proposals that both of you commented on. My understanding of what we are talking about there is that this Council on Industrial Competitiveness would be advisory. I think, Mr. Trowbridge, you had indicated you thought that was essential that the Council should not be an operating organization. I agree with that. I am interested in your comments as to how that Council, if it exists, would relate to the competitiveness impact statements which might be required of the executive branch. As proposals or actions came forward from the executive branch, would it be appropriate to require that the accompanying competitiveness impact statements be forwarded to the Council and commented upon by the Council before they went to the President and Congress? Is that an appropriate job for the Council to do, the coordinating not the preparation, with the preparation done by the executive departments?

I guess what I am thinking of is that if you are going to have a Council on Industrial Competitiveness that is going to be listened to by Congress and the President, it has to be somewhere in the loop of these impact statements. If either one of you have comments on that, I would be interested in hearing them.

Mr. SAMUEL. I have concerns, Senator, about the impact statement and I did not comment on it in my testimony because I have those concerns. I could well imagine that—I recall a few years ago, a very few years ago at some of the people who have headed, for example, the Environmental Protection Agency or the Occupational Safety and Health Agency, in this administration, they could well use a trade impact statement as a mask or an excuse for not carrying out perhaps some elements of the law, which they are supposed to carry out or for certainly making decisions would weaken implementation of the law. The same thing would be true of product liability issues and many others.

An administration is partisan by nature, by definition and historically, and it seems to me that the trade impact statement should be made by the commission itself, which is nonpartisan. It is broadly representative, and the trade impact statement I think would gain much more validity and much more attention if made by the commission rather than by the administration.

Senator BINGAMAN. So you would see this Council on Industrial Competitiveness as having the staff and the authority and responsibility to comment on proposals by preparing impact statements and then forwarding those to the President and the Congress. Is that your idea?

Mr. SAMUEL. Yes.

Senator BINGAMAN. Mr. Trowbridge, do you have a comment?

Mr. TROWBRIDGE. I would prefer, Senator, as I think you proposed, that the Department or Agency that is proposing a policy or leading the analysis of the proposal coming up to Capitol Hill would prepare the competitiveness impact statement based on their judgment of all the facts. It would then be presented to such a council, which would hopefully be made up of highly respected individuals representing a broad spectrum of the American society at large, education, research, labor, business, agriculture, et cetera. That group would be charged with reviewing the facts, reviewing the analysis and giving an appraisal to the President for his review and for influencing opinion up here in Congress as well.

It would be a filter, a point at which fresh and hopefully nonpartisan, unbiased opinion could be used to appraise the proposal. I think it would be very useful.

Senator BINGAMAN. So your thought is that the problems Mr. Samuel is concerned about, where you would have a particular agency that would have such a point of view that they would use an impact statement to really justify an unwise policy, is that the problem could be solved by formally require the Council to comment on and give their own somewhat more independent view of the competitive implications of what is proposed to the Congress and the President?

Mr. TROWBRIDGE. I think it would bring a broader perspective and a more independent appraisal and it would be useful. I would hope that they could work under some kind of a time limitation so that once presented with a proposal they would have to come up with their views in a manageable period of time so we do not get an enormous backlog of ideas being considered.

Senator BINGAMAN. Mr. Samuel, you said that you thought the Council on Industrial Competitiveness should include four Cabinet members: the Secretary of Commerce, Labor, Treasury, and the U.S. Trade Representative.

I guess I have some concerns with the idea of putting administration representatives on the Council. I am concerned with the ability of the Council to remain independent, because I would hope that this group would be able to criticize the administration's proposals in various areas. For example if the Commerce Department was proposing something which the Council felt was not appropriate, they should be able to give independent views to which the Congress would give credence. I would be interested in your thought as to whether putting the administration Cabinet officials on this advisory group would compromise the independence of it to comment upon administration proposals.

Mr. SAMUEL. I do not think so, Senator. I think the leadership and prominence of the individuals chosen to be on the Council would assure them the ability and the willingness to criticize when criticism is called for.

It seems to me that it is much better that the council be informed in a regular way of administration proposals, administrative thinking as it begins to come up with ideas and proposals of its own, rather than to sort of throw them into a vacuum and see how the administration reacts.

Even in the private Council on Competitiveness, which he described in his testimony before, one of the things we have to do is constantly ask for members of the Cabinet, this administration's Cabinet to appear before us to let us know what is on their minds. It would be much easier if they or very high ranking substitutes, an Under Secretary or a Deputy Secretary, could be with us regularly to comment, but they represent only a minority, they are ex officio members and perhaps we can put them on without a vote, but at least they should be present so that the Council knows it is within the ball park or if the administration is very much opposed to something that the Council is thinking about, at least they know it in advance and can compensate for it.

Senator BINGAMAN. I agree that they need to be plugged in and maybe on an ex officio basis it makes some sense.

Mr. Trowbridge, do you have some thoughts on that?

Mr. TROWBRIDGE. I would feel that if a Council were in session, certainly they would invite and like to hear the reasons why a particular assessment has been made by the department from the head of that Department or Agency and take that factor into consideration in their independent analysis. But I would think that we would be better off having an independent, nonpublic sector group of persons who were chosen for their knowledge and their willingness to look at something without a political filter.

Senator **Bingaman**. The other question I had, Mr. Samuel, is on the four Cabinet members you mentioned. Picking up on Senator Glenn's comments about education and research as being important to the long-term competitive posture of the country, Should not the Secretary of Education and the Secretary of Energy also be on the Council? A good share of the research done by our Federal government is done through the Department of Energy budget. Something over 70 percent of the federally funded research done in this country is done either by the Department of Energy or by the Department of Defense or defense-related activities. How about also including the Secretary of Defense? Do you have some thoughts there?

Mr. **Samuel**. Well, the reason I chose or suggested these four Cabinet members is because their interests span the whole spectrum of elements which this Council will deal with. I do not think that is true so much as the Departments of Education, Energy or Defense. They are really involved simply in one of the areas or two, so that I think they can be called in, their representatives called in at that time when the council discusses those issues. But the other four really are concerned with all of the issues of the council and they should be present or their top advisors be present at all times.

Mr. **Trowbridge**. I feel, Senator, that what we have here is a question of the competitiveness of American society. It is a word which is sometimes not only tough to spell but sometimes tough to describe. Basically we are talking about a matrix, and it is not just trade bills, it is not just article 301 actions. It is education, research, and human resources and skill development and capital formation and the Federal budget deficit and a whole series of trade actions on the part of government and a whole series of private actions on the part of universities, corporations, unions, people across the spectrum of American life.

I think to reflect that, perhaps we ought to have the whole Cabinet sitting as a Council on Competitiveness. But I think what we are looking for is an independent appraisal from a group that would look at this with a point of view that would be helpful to the President in arriving at some conclusions and policies for the future.

Senator **Bingaman**. My time is up, Mr. Chairman. Let me just finish with one thing. Your point, as I understand it, is that we should not have Government officials sitting on this Council, that it should be separate from the administration and separate from Congress, but the Council should expect to consider the proposals coming out of all Departments?

Mr. **Trowbridge**. I would expect that the appointment process could well involve appointments by the President, the House, the Senate, as very often commissions are put together. I would hope that the membership could be from the independent sector.

Senator **Bingaman**. Thank you, Mr. Chairman.

Chairman **Glenn**. Thank you.

Senator Heinz?

OPENING STATEMENT OF SENATOR HEINZ

Senator **Heinz**. Thank you, Mr. Chairman.

I have a couple of questions, but first I would ask unanimous consent that my statement be placed in the record.

Chairman **Glenn**. It will be printed in the record.

[The statement of Senator Heinz follows:]

Prepared Statement of Senator Heinz

Mr. Chairman, I just want to welcome my friends Howard Samuel and Sandy Trowbridge to the committee this morning. Their thorough knowledge of our competitive problems will be great assistance to us.

Both have strong views on our trading position. I am particularly interested in their views on industrial adjustment to international competition, worker dislocation, and trade organization. It is my belief that we need far more attention paid to recapturing our manufacturing base's international ability.

I agree with Howard Samuel that competitiveness must not be a means of reducing our living standard or sacrificing worker health and safety. We want to enhance both. It strikes me that the best way to encourage competitiveness and increase living standards is to have a highly flexible means of adjusting to international competition.

Among those programs which could assist both workers and industry is the Trade Adjustment Assistance Program. This program represents the greatest broken promise Washington has ever made. We presently are out of money for TAA job training, and only a fraction of eligible workers ever receive assistance under the program. At the same time, adjustment for firms is not provided at all.

We need a vigorous program of adjustment if we are going to compete. Without it we will simply face stagnation.

Having made that point, I want to again comment the chairman for an outstanding pair of witnesses, and I look forward to reviewing their testimony.

Senator **Heinz**. First, I want to ask Howard Samuel a question about plant closings, an issue bearing on competitiveness, not so much about plant closing notification. I have found a relatively lower level of anxiety about notification and a much higher level of anxiety regarding consultation. I was wondering if you could explain what the Federal Government's role is conceived as being in terms of plant closing beyond notification.

Mr. **Samuel**. First of all, let me congratulate you, Senator, for using the word, because in some sectors of society today that is a word which one does not use in polite society, consultation.

Senator **Heinz**. It may mean many things to many people.

Mr. **Samuel**. Yes. It seems to me that one of the reasons that the Department of Labor task force recommended—and it did recommend that advance notice take place, of course there was no decision whether that should be a voluntary or mandated one, some felt either way.

One of the reasons we all agree that it was an essential component of an adjustment program was it would allow the community and workers and management to discuss together the causes of the plant closing or the mass layoff and to see if there is any possible way that the community or workers could contribute to maintaining the employment, either by keeping the plant open or avoiding the mass layoff.

I see nothing sinful about this. I know that management is extremely fearful that in some way this is going to deny them their right to close the plant or to effectuate a mass layoff. I do not think any legislation being proposed in either House would result in that, but certainly I think it is something that——

Senator HEINZ. Senator Metzenbaum and Senator Kennedy have a bill in which says that you go through a consultation process, and it seems to say that if the result is not one that labor likes, management cannot close the plant. Now, maybe it does not say that, but what is the policy and who is telling people that they cannot close the plant? Can you explain to me the way that is supposed to work?

Mr. SAMUEL. Yes.

Senator HEINZ. I think it has been endorsed by some organization called the AFL-CIO.

Mr. SAMUEL. Yes, I think the Industrial Union Department.

Senator HEINZ. I think I am talking to the right guy.

Mr. SAMUEL. I do not think that anything that any of us have considered would prevent an employer from closing a plant.

Senator HEINZ. Oh, I am not asking whether it prevents it. I am just asking how it works.

Mr. SAMUEL. Well, it simply would require consultation, and if the consultation resulted in no difference of opinion, the plant would close.

Senator HEINZ. Are there any procedural roadblocks?

Mr. SAMUEL. No. As a matter of fact, we have been talking recently, if employers are afraid that this could lead to litigation, we are willing to see that the bill be amended, if that is necessary——

Senator HEINZ. So when you say consultation, it really is just talking?

Mr. SAMUEL. Simply talking to—we have had cases——

Senator HEINZ. Sandy Trowbridge, are you against talking?

Mr. TROWBRIDGE. I am not against talking, Senator, but I am worried by a regulated structure which I believe would result from the legislation being proposed. If I remember its details correctly, it would necessitate a 90-day notice period if your employee body is *X* number, or 120 days, 180 days, depending on the size of the work force.

During that time, it would require talking, consultations, and I think to some degree, by implication certainly, negotiations, in order to ease the impact of the closing of the plant. We have been trying to deal with this problem, which is indeed a very serious problem for a community that is hit by a major employer closing down.

We have tried to find as many good examples of how companies have approached this problem and made the impact as palatable as possible by just plain sensible practices; yes, going and giving advance notice if the business conditions permit; yes, working out adjustments and new skill and relocations.

Senator HEINZ. The President's task force or Bill Brock's task force found that the average notification period was two weeks and for larger manufacturers, for many of your members it is probably a bit better. You represent a lot of unionized people and at least in Pennsylvania the average length of—there is in many contracts a required notification period, I think.

Mr. SAMUEL. But you know, Senator, that the BLS report indicated that large companies were no more responsible than small companies in providing mass notice.

Senator HEINZ. I think I have a flavor of your responses. This is not a legislative hearing on that proposal, but it is material to the way Government works. If this legislation should pass, it would impose additional duties on it, and we would like to know what they are, whether we can handle them. I do not know——

Mr. TROWBRIDGE. Very often, Senator, a plant closing is a factor of competitiveness.

Senator HEINZ. That is why I am bringing this subject up, it is relevant.

Let me turn to another subject that is relevant to competitiveness called takeovers. Now, Sandy Trowbridge, you testified generally in favor of a trade and competitiveness impact statement where government rulemaking is concerned. How about where a takeover is concerned, do you feel the same way about it? Should there be an impact statement when there is a takeover?

Mr. TROWBRIDGE. I would think what is needed in the whole takeover area, Senator——

Senator HEINZ. Do not worry, Samuel, I am going to ask you about merging unions in a similar statement. You are not going to get off light. [Laughter.]

Mr. TROWBRIDGE. One of the things that happens in these hostile takeovers, mergers, or acquisitions that are done under great pressure is that nobody really has the time to say what is the impact on America's competitive position or the industry involved.

The answer in part I think is to change those portions of the law which deal with the process and procedures. We would recommend and are going to soon come out with a series of points which, would include so-called closing the 13-D window——

Senator HEINZ. The 10-day window.

Mr. TROWBRIDGE [continuing]. The 10-day window down to 1 or 2, moving the 5-percent threshold down to 1 or 2 percent, so that somebody has to announce their intention and tell the world much more rapidly than is now the case. They can now build up an ownership position without releasing the information. We will also favor a tender offer period of 40-days or 60-days operable period, instead of the 20 days now given.

I think that kind of procedure would allow for the question to be asked about what is going to happen to this competitive——

Senator HEINZ. I do not see why at all. It certainly slows the process down. It makes it a lot more costly for somebody to go through a hostile takeover, and I understand that. But I do not understand at all why it provides any additional information. It just provides a lot more time for the lawyers to run around and do things.

Mr. TROWBRIDGE. They will be doing that anyway, Senator, but the time——

Senator HEINZ. Maybe you pay a little less over time, but they make it up on the extra time they have to spend.

Mr. TROWBRIDGE. The point I think that is operable here is that under the conditions of pressure and of urgency that exists, there simply is no one asking the question.

Senator HEINZ. That is why I asked the question about impact statements, why is that not a reasonable thing to require.

Mr. **Trowbridge**. I think if there is a feeling in the Department of Justice, or the Department of Commerce, or even the SEC that a particular merger or acquisition would be in the long run detrimental to the competitiveness of that industry or of the United States at large, they would have under a competitiveness impact statement the kind of procedure, the right and the duty to raise that question before a council which we have been talking about. This would be the point at which it could be appraised for its value or lack of same.

Senator **Heinz**. My time has expired. I will just make a comment. My impression is that what you have just proposed, which is getting the Justice Department or the SEC or somebody like that in would require new enabling legislation and ask for a massive bureaucracy down there to make decisions as to whether they ought to look or not look, and I would much rather, I think, go about it the other way, which is for mergers of any significance require the impact statement, but allow a waiver if there are certain minimal showings that nobody wants them, nobody cares except, you know, some odd balls who really do not have appropriate and significant standing to throw a wrench into the works.

Mr. **Trowbridge**. Would your thinking include the requirement on the part of the acquirer of the defending company for some sort of a statement as to what this would all result in as far as competitiveness?

Senator **Heinz**. My current thinking is that would be the option of the potential target to decide whether they wanted to respond or not. I suppose silence would be consent.

Thank you, Mr. Chairman.

Chairman **Glenn**. Thank you, Senator Heinz.

Just a comment on the advance notice in closing here. I can see advance notice and see a requirement for it, maybe even in law, if a large company, General Motors or somebody, is transferring an operation from one spot to another, consolidating one branch with another and closing down a plant. To give advance notice in that case just is common sense, almost common courtesy, I guess, and that is fine.

But it does bother me when we start thinking about putting advance notice into law that would apply across the board to everybody. I was the head of an international corporation myself once in my poor checkered past, and I cannot think of anything that would devastate a company than being close to the margin, whether red or black on the bottom line, and you have to by law say, "I have to consider closing" and so now I have to give 180-days notice or 120-days notice. The first blooming thing that is going to happen, I guarantee you, all of your good workers are going to shove off and your markets disappear and you have just guaranteed going into Chapter 7, not 11, and you are going to be in deep bankruptcy real quick. Your chances of making it at that point are gone if you are an independent, if you are not part of a big organization that is just transferring things from one spot to another.

Do you think that would not happen? And why would it not?

Mr. **Samuel**. Well, as a matter of fact, Mr. Chairman, I do not think it has. And as a matter of fact, one of the elements in the Department of Labor's task force which was signed by businessmen, labor, public officials and academics, is that there has been no demonstration that the companies had been harmed by advance notice. As a matter of fact, that echoes a statement which was made by my colleague's organization, a subsidiary of it, NACOR, which is part of the NAM, which has also said, number one, it recommends that advance notice be given where possible, and it does not support mandatory advance notice but recommends that advance notice be given and it suggests that there is no evidence whatsoever that advance notice prompts workers to leave or creditors to try to collect their debts. It simply has not happened.

As a matter of fact, there is some evidence that in those last 2 or 3 months workers work harder than ever and that productivity increases because workers want to demonstrate that if the plant does close they are good citizens and can be counted on by their next employer.

Chairman GLENN. Mr. Trowbridge.

Mr. TROWBRIDGE. Mr. Chairman, I would concur with your concern that a mandated forced set of due dates would put into play a series of structures which would rigidify the system, and it is for that reason that we have spent a good deal of time trying to alert our members as to successful measures by which companies have voluntarily worked out notification and adjustment processes with their employees and with the communities so that the impact is minimized.

But to do so under a forced and rigid set of specifications I think would very often result in the kind of accelerated demise that you describe.

Chairman GLENN. Let me get over into another area. Mr. Trowbridge, you mentioned the effect of Federal budget deficit and the impact that it has had—I am not completely sure that we are not living in a time where macroeconomic policy may not overcome any organization, of anything we do with the wiring diagrams of Washington, and this was brought home to me—well, let me back up just a little bit.

We saw the strength of the dollar go to such unprecedented heights that it was virtually impossible for us to sell abroad and one out of every six industrial jobs depends on export of the product manufactured, which is the average for the whole country. Some say 1 in 5, but 1 in 6 is absolutely safe to say that. Many of those jobs just flat disappear strictly on the strength of the dollar. One-third of our agricultural produce in normal times gets shipped abroad. We saw that change dramatically. Now we are a net importer of agricultural products back as of six or eight months ago.

It was brought home to me this past weekend in an article in the Columbus paper back home in Ohio. It discussed the Honda plant at Marysville, where the Japanese came in and invested so they could build their Honda automobiles, made in America, sell them here, market them here, and employ American workers.

Because of the change in the strength of the dollar vis-a-vis the yen now, Honda has active plans now to manufacture in Marysville, Ohio, and sell in Japan. Now, what a switch that is, and it does not have a blooming thing to do with quality of product or anything else except that it is a change in the macroeconomic policies of this country.

I wondered when I read that the other day, does it really make that much difference what we do here, or is macroeconomic policy really going to overcome most of what we do. Obviously, if our economy takes the extreme swings it has taken, it is going to overcome whatever our best intentions and efforts here sometimes. But we cannot afford to see the swings in fluctuation of dollar value and so on and still expect to have any semblance of continuity in the international marketplace, it seems to me.

Just one other thing here: If we went in the first years of this administration to cut back the size of the government and everybody thought it was great, we are going to have taxes come down, and that is going to more than make up the revenue loss in new economic activity, enough to see us make that up in new activity and that there will not be a huge deficit. Now, it did not work and we now have the biggest deficits in the world, far bigger than anyone imagined. We are beyond Reagan's criticisms of Jimmy Carter for even contemplating a $41 billion deficit back in the first election campaign. How we would love to be down to that level right now.

Maggie Thatcher, to her credit, has the same objectives as President Reagan, but she went at it differently. She said, okay, we are going to cut back the functions of government but we are going to cut those back first and then that will result in enough savings to reduce taxes.

We went at it the other direction. We voted the taxes and said OK, that will force us to do all the other things and we never did them. And the President keeps submitting to Congress the most unbalanced budgets in all American history and then giving us the devil for not cutting more out of what he just submitted to us 30 days before.

So the whole thing is backward to me. That is more a statement than a question, I guess, but I will come back to my original question here. Is macroeconomic policy now so important in what is going on around the world that all the rest of these things are just not going to be of that much consequence?

Mr. TROWBRIDGE. I think clearly that macroeconomic policy does set the framework in which most of this competitiveness problem is developed. The enormous Federal deficits clearly have a relationship to our trade deficit. We, for 3 or 4 years in the early part of this 1980's decade, were increasingly aware of the enormous impact to the strong dollar and what it was doing to hundreds of American companies trying to export.

In all honesty, Mr. Chairman, when we went to the Treasury Department until early 1985, I guess, we were just told there is no problem; this is the free market at work, let it happen. As a matter of fact, it was said of one of the senior officials at Treasury, if you asked him what his name was, he would say "Let the free market decide". It was a very clear macroeconomic policy of leave it alone.

We were very pleased that the policy changed and in September 1985 the so-called Plaza agreement came about, but I think we have to be careful in evaluating the impact of that. We are rightly impressed by the 45- to 50-percent change in the relationship of the dollar to the yen and the D-mark in the European currencies, but there are many major trading partners that we have whose currencies have gone right up and down along with the dollar—Korea, Brazil, Singapore, Taiwan, Canada—and those countries have very, very large trade surpluses with us.

So if you take the entire basket of currencies vis-a-vis the dollar, the change has been somewhere closer to 8 to 10 percent, rather than the 45 to 50 percent we think of when we think of the dollar and the yen. This must be a big reason why this expectation of a change, coming from the dollar's valuation being negotiated, has not had the impact in the time since 1985 that we had expected.

Chairman GLENN. Mr. Samuel, do you have anything?

Mr. SAMUEL. I think Sandy expressed it very well. I would just like to suggest also to the Chairman that, despite that change in our own relationship, the relationship between the dollar and the yen, our trade deficit in 1986 with Japan was larger than ever and there are a lot of predictions that it will not change very much, making it worse in 1987.

Chairman GLENN. Well, let me just say I think most economists figure that after you see change, if you will, in the value of the dollar versus other currencies, it takes somewhere around 18 months to 2 years before you get back whatever market you are going to get back, if you get them back.

Mr. SAMUEL. If you get them back.

Chairman GLENN. It takes that long. And so we are still in that timeframe there, whatever is going to occur still has a little time to run out yet.

Mr. SAMUEL. And I think it is going to be much diminished by the determination of Japanese manufacturers to maintain their market share, even if it costs money, they can make it up elsewhere in the world.

Chairman GLENN. My time is up.

Senator Bingaman.

Senator BINGAMAN. Let me ask on this council again. I have a few more questions on the proposed Council on Competitiveness and the impact statements. We have talked about trade impact statements and there is a proposal for competitive impact statements. I guess it seems to me we need one or the other, not both.

It would seem to me that it makes more sense to have the broader requirements so that those recommendations or proposals that come out of an executive department which are not exactly tied to trade but still would harm our ability in the long term to be competitive would still get attention. Is that something that each of you would agree with or disagree with? I know, Mr. Samuel, you said you did not like the idea of these trade impact statements. I would like to hyear your additional thoughts and Mr. Trowbridge, you too on which of the two we should have, if either.

Mr. TROWBRIDGE. My feeling, Senator, is that the true question is "does this have a positive or a negative impact on our overall competitiveness?" It is a tougher question to ask, but you look at almost any given policy determination and it is very hard to just say it that it is strictly a trade problem. It may well have R&D implications, it may have secondary school implications, it may have relationship to macroeconomic policies, exchange rates or debt financing—I think the whole picture has to be looked at.

Senator BINGAMAN. Mr. Samuel.

Mr. SAMUEL. I agree with you and with Sandy and, as I indicated in my testimony, certainly the problem of competitiveness goes beyond trade, so if there are going to be impact statements they should deal with the broader issue of competitiveness.

I recall my earlier anxiety about having a Government Department do it. I would rather see them emanate from the council itself.

Senator BINGAMAN. To what extent would you see the Council being pro-active in the sense that they would make recommendations on their own, instead of reacting to something that is being done—that they comment on something that was not being done?

One example is the comment that you just made, Mr. Trowbridge, about the fact that our currency relative to the currencies of Korea and Taiwan and Singapore and Canada and various other places has not changed. Would it be appropriate for the Council to identify things like this which that they felt were in need of urgent attention by the administration? Should they issue a report or an alert or whatever so that the President would deal with the problem, or is that just too meddlesome?

Mr. TROWBRIDGE. I think you might run into some problems if that were carried to an extreme in which the council was kind of dismissed as a "busy body." That is the danger.

Senator BINGAMAN. Right.

Mr. TROWBRIDGE. I can understand the probable result which would be as part of the review the council could, in looking at it in its broadest competitiveness terms, say, that a lot of this would depend on what happens to trade exchange rates or what happens to our decision to lift export controls or not to lift certain export controls on certain types of products. If it were continually proactive I would worry that they would begin to lose some of their credibility and political capital if they overdid it.

Senator BINGAMAN. But you would still like to have them retain the discretion to do so if they felt that using their political capital was worth it in a particular instance?

Mr. TROWBRIDGE. The assumption of creating such a Council is that we are putting the best minds and judgment we can on a national problem, I would hope that they would provide us with those analyses when appropriate.

Senator BINGAMAN. Mr. Samuel, do you have any thoughts on how proactive this group should be able to become?

Mr. SAMUEL. Well, perhaps I am being overly optimistic compared to Sandy, but I think the council should be very pro-active. There is no other comparable body in Government or out at the present time, unless momentarily the private Council on Competitiveness.

I particularly like your language in your bill that one of the duties of the Council is to "develop and promote a national vision and specific policies which enhance the productivity and international competitiveness of United States industries."

And then another item, "to provide policy recommendations and guidance for the Congress, the President and Federal departments and agencies regarding specific issues concerning economic policies."

Finally, the function of the council which has been mentioned a number of places, to try to derive a consensus, because I think that is extremely important. The only way today that we have, the only method we can use to provide a consensus today is really through congressional consideration, which very often involves partisan struggles, conflict. It seems to me that some of these problems can be developed and worked out through a consensus operation of the private sector, with government support, it would be vastly improved. And I point out, to recommend to you the activities of the recent Department of Labor Task Force on Worker Dislocation, which is exactly that.

There are a couple of areas where we could not agree, but about 90 or 95 percent of what could be a really contentious area, we are able to put together a consensus representing all of the sectors of the country.

Senator BINGAMAN. Let me ask on the question of whether the council should comment on the budget that is submitted by the President to the Congress each year, and whether it should also comment on other budgets that may be developed.

There were some aspects of the President's proposed budget to the Congress this year that were very detrimental to the long-term competitive posture of the country and some other aspects that were helpful. I think the proposal with regard to retraining dislocated workers I think had some positive aspects to it. The proposal to eliminate funding for vocational education was not positive, in my opinion. Is that an appropriate thing for this Council on Industrial Competitiveness to comment on, to advise the President and the Congress on when the President submits his budget?

Mr. TROWBRIDGE. I think you could expect that as a logical area for concern. It sets the pattern in which all of the various items coming before the council would be influenced. I mentioned in my testimony the irony that here we are worrying about competitiveness on the one hand and taking Eximbank apart on the other as part of the budget process, and it does not seem to be very consistent.

I think there are other parts of the budget which clearly have that same kind of impact on competitiveness. One question, Senator. In using the title "Council on Industrial Competitiveness," might we tend to limit the focus? Is it really only our industrial sector that we are thinking about? I know that in my opinion, as the manufacturing sector supplies 70 percent of the goods we trade in and out, it is the largest single element. But if you take that literally does it preclude us from looking at agricultural policies or other policies which are part of the problem that may not be called industrial?

Senator BINGAMAN. Your thought is it should have a mandate broad enough to give advice to the President and Congress on anything that they feel would impact on the competitive posture of the country as it will ultimately impact on our standard of living, is that what I understand?

Mr. TROWBRIDGE. If in their wisdom they feel that particular policy or topic needs that kind of evaluation, it would have to pick and choose carefully.

Senator **Bingaman**. Mr. Samuel, do you have any thoughts as to this idea that the title is too restrictive?

Mr. **Samuel**. Could I comment on both the questions, Senator?

Senator **Bingaman**. Sure.

Mr. **Samuel**. I think I share Sandy's viewpoint that perhaps we could just remove the word and call it the Council on Competitiveness, which would at least make it possible for the council freely to comment on other areas.

With respect to the budget, I would like to suggest that my recommendation earlier that the Cabinet members be ex officio members of the council would make it possible for the council to comment on the President's budget privately, even before it comes out, so that possibly it could have an effect on the President's budget and to avoid what I think are not very sensible approaches such as, as you mentioned, cutting back on vocational education. That kind of a dialog could take place if the Government was part of the council activities on a regular basis.

Senator **Bingaman**. But as I understand it, you are still agreeing with Mr. Trowbridge that if their efforts to impact on the formulation of the budget were not successful, they should still be in a position to publicly advise the Congress they disagree with certain aspects of the President's proposal?

Mr. **Samuel**. Yes, I do.

Senator **Bingaman**. Thank you. My time is up.

Chairman **Glenn**. Thank you. That is an interesting comment on it, too. I do not think we should limit it if we go that route either. I think it should encompass the whole scope of our competitiveness and that includes agriculture, even though that is smaller than the industrial part of it. That is a good comment, and I think it would broaden the support for the whole thing, too, probably.

I will not repeat my statement on my feelings about research, science and technology. I feel very strongly about that area, that no amount of rearranging is going to take away the basics, the importance of the basics.

A number of people, including the Young Commission, have suggested the creation of a Cabinet-level Department of Science and Technology. Most other nations we are competitive with around the world have a Department of Science and Technology, whatever it is called, at Cabinet level or Ministerial level. What are your reactions to that proposal, Mr. Trowbridge?

Mr. **Trowbridge**. Mr. Chairman, I think we probably ought to look first at whether or not we could not bring about some of the desired results of that proposal by reviewing the history in the White House of the President's Science Advisor or the President's Scientific Advisory Committee. At one point in our postwar history there really were very important voices at the President's side, heavily engaged in the early days of the atomic energy world. NASA, I believe, was one of the thoughts that came forth from the President's Scientific Advisory Committee.

Since then, we have had a series of individuals as the Science Adviser to the President and their role depending largely on what the President really expected of them, and if he did not care much about it I guess they did not have much to do.

That to me would be the first step, rather than perhaps starting a new Cabinet Department. Frankly, the report of the President's Commission when it was presented at the White House in January 1985, had as one of its first recommendations the new Department of Science and Technology. That scared everybody back, and they said, "Oh, here is another new Department and we are trying to shrink Government rather than expand it," and it may have been part of the reason that the committee report just did not get as much attention as it deserved.

Chairman GLENN. Well, I had a margin note here that I was going to ask about the old PSAC committee, the President's Scientific Advisory Committee. Now, I worked with them and have been cognizant of their activities for many years and they have ranged in effectiveness. They have been effective, I think, depending on how strong the chairman of that has been. If he is well respected and a person who has the confidence of the President, he is very effective, as Jerry Wiesner who is now head of MIT. He was extremely effective with President Kennedy, for instance, and did an excellent job there. I did not always agree with their decisions.

At one time they wanted to make 40 more chimp flights before they let me be the connection between man and ape, but at any rate that was another subject back in the old days. [Laughter.]

So we did not always agree on everything, but certainly they had President Kennedy's ear and he acted on their advice. Well, now it has gone from people who perhaps had the extreme trust of the whole scientific community who would back up that person and that group over to people of perhaps lesser stature in the community, and that is not a comment on anybody by name. It is just that down through the years there have been strong and weak people, and I guess you find that in every Department of Government maybe to some extent.

An alternative, another proposal that I would appreciate both of your comments on would be if we took something like the idea of a—let me put a little more preface here.

Back some years ago, I was proposing a Department of Science and Technology, and I thought the time had come that we should go that route. It was so important for the future of our country. I wish we had gotten it through. Lo and behold, what I found at that time—I thought I would get automatic support from the whole scientific community on that. I thought they would flock in here and we would have automatic support. In fact, it was just the opposite.

The leaders of the different scientific organizations did not want it, and were very vociferous in not wanting it, and the reason, we found out in talking to many of them privately later on, was that they did not want to disturb their little paths of support out of Government that they had established at great difficulty through the years and they were afraid I was going to wreck whatever their little specialty area was, and they were not willing to support the idea and we still find that to this day, so it is not something that we have solved yet.

Let me ask this: An alternative to both the Department of Trade proposal and the Department of Science and Technology proposal is to perhaps marry them together, technology, trade, commerce in one agency which might be called something like a Department of

Commerce and Technology, not just trade. Trade to most Americans means the foreign activities of Commerce, and I think what we would be doing is marrying science and research and commerce, both domestic markets and foreign trade, which is part of commerce, and we would have one department then that has the science and technology and commerce all in one department. Is that something you would favor or not, Mr. Samuel?

Mr. SAMUEL. Mr. Chairman, although I was a member of the President's commission, I must say I did not take an active role in the consideration of the Department of Technology when that was raised, largely because I thought the chances of it being effectuated were so minimal that it was not worth getting into a deep discussion, and I suspect that is still true today.

As I indicated before, my hope is that the trade function would continue to be vested in the USTR operating out of the White House. It gives him that extra authority over the other departments, which I think is required by a subject of such importance. It still preserves the ability of the various departments to feed into him their particular concerns, so I would not particularly be in favor of a special department dealing with trade, and I do not think it is likely that we will have a Department of Technology.

Partly, I think it is supporting your comment and Sandy's. If a President is interested in technology and science, it does not make much difference if it is a science adviser or a secretary of science. If he is not interested, he is not going to pay attention to either one of them.

Chairman GLENN. Well, that is true of every department, I guess, yet we elevate some things to the department level saying that these are the things that we feel long term for the next 50, 100 years or whatever are very important for the country, regardless of who is in the White House, and there will be a department that looks after that interest for our nation because we feel it is a long-term interest.

Mr. SAMUEL. It has not worked sometimes.

Chairman GLENN. If we followed your same logic in the other direction, I think we would say we do not need any department of anything because a good President will evaluate those things and put them into place. We try and put a set of departments or organizations of Government that transcend even the importance of a President.

Mr. SAMUEL. Sometimes it works, Senator, as you know. Look at HUD today, sometimes it does not.

Chairman GLENN. Right.

Mr. Trowbridge.

Mr. TROWBRIDGE. Senator, I have not given thought before this to the combination such as you describe. There is certain logic to it, certainly, because the real advantage that we I think still have, although it has been subject to a lot of battering around the world, is the quality of our technology in this country, the research and development base, and the ability to move from the laboratory into the marketplace as the ultimate test. I can see a relationship clearly between the activities in government dealing with science and technology and with commerce and trade.

It might well strengthen both proposals. I am not sure that I can give you a definitive yea or nay on the proposal right now, but I think it has got a good deal of interest behind it.

There are some things which are going on within the current governmental organization which I think deserve some recognition and some credit. I am sure you are familiar with Mr. Erich Bloch and the work he is doing at the National Science Foundation in setting up centers for research on campuses in which industry is being involved, and those are multiplying across the country. From everything we hear, they are very good contributions to the national need.

Chairman GLENN. We talked about that a little the other day. He was one of our witnesses the other day and we had an excellent panel discussing some of that.

I presume you are both familiar with DARPA, the Defense Applied Research Projects Agency. They do the high-risk research which has the potential for high payoff R&D strictly for the Department of Defense. Some witnesses that have appeared before us suggested the creation of a civilian counterpart to DARPA, an advanced research projects agency that would not be classified, where we could support research. What do you think of such a proposal as that, Mr. Trowbridge.

Mr. TROWBRIDGE. Again, an idea which I have not had time to really think through. I would worry a bit if it were an agency that could become one of allocation in terms of what we think of sometimes as "industrial policy"; a governmental agency deciding that something over here needed to be fixed and therefore let us in effect direct resources from the private sector to go do it. It is another thing to do that under contract with the Defense Department that is a purchaser, and setting up a series of needs which are very special and unique.

I would have to question the role of a civilian counterpart if it did get into that area of allocating resources.

Mr. SAMUEL. I must say I do not think I am quite so concerned, Mr. Chairman, regarding that element. It seems to me that any way that this country can foster basic research, which is an area which in the past we have been a leader in and are losing our leadership, is important and if the Government can do it directly as well as through incentives to private companies, it seems to me we should look at it very carefully.

Chairman GLENN. The recent superconductor emphasis is sort of a case in point here as to what happens in some of these areas, too. We now find other countries better organized to take advantage of some breakthrough like this. It is a breakthrough and it is going to be enormous in its impact, if any of the estimates are even half way true, and we had some of the people here the other day commenting about it.

We are also told in the news media that the day the breakthrough was announced, when it became known, it was 2 o'clock in the morning in Tokyo. One of the news reports said the Japanese Government actually called people out of bed, had them get out and come down to have an emergency meeting to get organized as to how they are going to approach using this, and they already had their group formed and working right now on how they are going to use this new technology. Now, that is a speed of transfer of technology, if it is even half way true, that we accomplish on a much more leisurely time frame here and with no government intervention normally and it gradually is assimilated in industry and capital formed behind a good idea and we put an idea to work and that has been the pattern.

I do not know that we are going to have the luxury of the time to do that in the future that we have had in the past, and yet at the same time I am not sure how we are not going to organize as the Japanese are with MITI and those organizations, and yet the old free trade patterns that we have relied on may get out-competed. How do we deal with that?

Mr. TROWBRIDGE. That is a tough question, Mr. Chairman. You clearly and correctly identified the differences in our system and the ability of the Japanese, through their cultural and social and economic and judicial and industrial practices, to blend together very often their public and private resources and to set policies which are almost jointly administered. The phrase "Japan, Incorporated" is intended to imply that kind of system, and it is one which we can admire and be respectful of in terms of its efficiency and effectiveness, but I think you are very right in saying that it's transfer to the American psyche and social and economic framework is not going to happen.

How we find a middle ground is part of our future agenda, obviously, and to the degree that we are looking at this question called competitiveness in its broadest framework, perhaps we are beginning to think of the problem in a way which will lead us to some conclusions. I do not have obviously those in mind, but America has got an enormous capacity for innovation and for doing things because they are important.

This Council on Competitiveness, with John Young as Chairman and its membership made up of labor and university and business groups, has a group of national affiliates associated with it; groups like the American Association for the Advancement of Science, the American Council on Education, the Association of American Universities, the Industrial Union Department of the AFL-CIO, the NAM, and so forth.

We went around the table the other day and asked every representative there what were they doing in the areas of competitiveness, and what sort of studies and research and thinking were they engaged in. I came away from that meeting impressed by the enormous wealth of activity already under way, searching for answers to some of these problems on the part of private sector, free institutions that are doing so in response to a perceived market demand. I was encouraged by it.

Chairman GLENN. Mr. Samuel, do you have anything to add?

Mr. SAMUEL. I do not have very much to add, Mr. Chairman, except that your comments represent sort of a true life picture of that old story, on Monday the United States announced a tremendous breakthrough, a new invention; on Tuesday the Japanese formed a consortium to target the American market; on Wednesday the Soviet Union said they had actually invented it two years earlier. [Laughter.]

And on Thursday, the Koreans flooded the world with its version. [Laughter.]

Chairman GLENN. I should end on that, but I am not going to. We will wind up shortly here. You gentlemen have been very kind in being with us here.

The National Technical Information Service [NTIS], may not be perfect, but I think it has done a pretty good job of getting a lot of the information around. We would like to make it more available to business and industry.

The administration is considering privatizing NTIS. They want to sell it off as one of the assets that would then be run by private industry by somebody who contracted to do that. I have a little difficulty with that myself. I think to make that a profitmaking organization, which it would have to be at that point, and to have the NTIS and their dissemination of technical information based on whether somebody is going to have a bottom line profit or not seems to me a little bit shortsighted. Do you favor privatizing the NTIS, Mr. Trowbridge?

Mr. TROWBRIDGE. My instinctive reaction would be that that is not a viable commercial proposition. We would be selling it off and whoever wanted to buy it would be looking at it in terms of how quickly they can get their return back, and a lot of long-range important information would not be part of that package.

Chairman GLENN. Mr. Samuel, do you concur with that?

Mr. SAMUEL. I do.

Chairman GLENN. Thank you.

Title IX of S. 374 calls for upgrading the quality and scope of the Labor Department's job data bank. Do you favor that?

Mr. SAMUEL. Yes, we do. The Bureau of Labor Statistics, I think, and the Employment Service, both require considerable beefing up, particularly the Employment Service, which we do not believe is now carrying out some of the duties they should be carrying out in order to foster adjustment.

Chairman GLENN. Do you favor that, Mr. Trowbridge?

Mr. TROWBRIDGE. I am not terribly familiar with the issue, Mr. Chairman.

Chairman GLENN. There is one other area. You mentioned the Export-Import Bank cuts earlier, and then I think current with that in your statement you said that—you referred to the administration and said the current team has made great strides in dealing with the difficult international economic conditions that we now confront. What are those great strides?

Mr. TROWBRIDGE. I think there has been a good, strong resurgence of enforcement of some of our existing trade laws by Clayton Yeutter, with tougher administration and more forceful negotiations, and I think he and his colleagues deserve a lot of credit for it.

I am also pleased with the trends that are now evident in the Commerce Department for a much more sensible application of the export control regulations which for years have been shackles around American exporters in areas where endless numbers of countries and companies can substitute and have substituted for our products in the world market.

I think there is a growing recognition that we have got to unload some of those controls, and I hope that includes the review of things like the Foreign Corrupt Practices Act, frankly. That is a law which has so many ambiguities that a good number of Americans looking at its very vague language have concerns that by going abroad they would inadvertently do something which would be caught under F.C.P.A. language and then face criminal penalties. It seems to me that is just putting another lodestone around our competitive ability in the private sector, and I would like to see that clarified. Not that we want to do away with the law. Nobody is in favor of bribery, but there is a real area for clarification. I think that has been proposed by the administration and is the kind of thing that I was thinking of when I said that these were steps in the right direction.

Chairman GLENN. Well, I have watched from this end of the avenue on some of these things, as the international trade people have made recommendations to the President, certain actions to be taken, and I have seen them just languish and sit there and nothing done, and so I guess I was looking at it from that standpoint.

There is some increased activity on the USTR and enforcement. Mac Baldrige, who was one of our witnesses at the opening of our hearings back a couple of weeks ago, I think has moved in some of these areas, but in my view is there has not been nearly enough movement in these areas as we have gone through a very difficult period of seeing our markets overseas just basically disappear because of the strength of the dollar and so on. I think we have waited too long.

I am basically a free trader, I guess most Americans are, but we were just aced out of the field here by the strength of the dollar and things that happened and unfair trading practices, and to wait as long as the administration has to take action, and that is to just let our markets disappear and see our industries go downhill in some respects, steel being one example and so many others that we could use as examples.

All the trade legislation, of which these particular hearings are a part, is a result of that. I look at this, while I do not like restrictions in trade, I do not like to pass restrictive trade legislation, I think in the short term we are going to have to do something until we get back on an even keel here.

I do not want to see us pass restrictive trade legislation against certain countries or industries or certain products and just pass it into the indefinite future and say we are going to forever embark on a protectionist route. I want to get in and out-compete everyone else, and the only way we out-compete to me is the two things I am a missionary on and that is in the area of higher education and basic research. That is what made this country and that is what moved us ahead of other nations around the world. It was not all just majestic rivers and fruited plain and purple mountain majesties we sing about, but because we set out to get everybody educated and we out-researched everybody else. We put that to work and formed new industries and business and the rest of the world followed in our wake and we are still in that position now, but the problem as I see it is the trends are wrong.

Our technological lead will not last forever. We now find other nations with enough disposable income to beat us, but they are putting money into education and they are putting money into research, and so the trends are wrong to me. And unless we do something, our long-term competitiveness is just not going to be there. We may have to protect in the short term while we get the level playing field everybody talks about and all those things put together. but then we have got to get in for the long term and out-compete and be the country that forms the new businesses and industries and makes the breakthroughs or we are not going to be the world's leader forever.

One of the major considerations for enhancing U.S. competitiveness is a review of current antitrust laws. Some have argued that a relaxation of these laws is necessary to encourage greater sharing of research and technology, and others argue that current antitrust laws are an important balance to prevent market consolidation and monopoly and that the way to greater competitiveness for U.S. firms in the international marketplace is through greater competition among our firms in the domestic marketplace. What are your thoughts on that issue?

Mr. TROWBRIDGE. I would just in general say, Mr. Chairman, that any law that was written 70 years ago basically ought to be looked at in light of current events, rather than the time in which it was written. I believe Secretary Baldrige has talked on this point, urging a review of the antitrust laws particularly as they apply to U.S. firms in joint ventures overseas; again, the competitive issue being the driving force.

My own concern about the consolidation and the concentration of industry and industrial power I think would go more toward the whole question of mergers and acquisitions and hostile takeovers that we have seen so much of recently. That is why we are concentrating, frankly, on some tightening up of the rules of the road there, so that the target companies have more time and the raiding elements have to declare more clearly and publicly so that the process just does not get swept over the cliff in what I think are sometimes very damaging long-range results.

Chairman GLENN. Mr. Samuel, would the AFL–CIO favor weakening the antitrust laws to make us more competitive?

Mr. SAMUEL. Well, I prefer to use the verb of "reviewing" rather than "weakening" and I think we would——

Chairman GLENN. A temporary review of them.

Mr. SAMUEL [continuing]. I think we would certainly favor a review of the antitrust laws and see if they are an impediment to our being competitive, and I would hope that kind of a review would be conducted not just by the business sector or by people representing the business sector but by a broad spectrum of people, because antitrust laws do affect all of us.

If I could just make a comment in response to your earlier question, Mr. Chairman, I share your support for the activities of this administration in recent months in the trade area. My fear is that they are doing it largely in order to deter Congress from passing effective trade legislation and the need for effective trade legislation is still there.

Chairman **Glenn**. Well, I think they have said that or representatives of the administration have indicated that in some of their interviews in the press anyway.

I think we have covered almost everything. Does the staff or anybody up here have any question they want to ask? Anything else? [No response.]

Gentlemen, what should I have asked you that I did not in the area of competitiveness? Is there anything you would like to volunteer that we have not covered this morning?

Mr. **Trowbridge**. I would just like to hope that you keep the fires burning under this issue, Mr. Chairman. I think it is vital. It is the kind of congressional leadership which is clearly needed and I commend you and your Committee for doing it.

Chairman **Glenn**. Thank you.

Mr. Samuel, anything that you wish I had asked you this morning or anything you would like to volunteer?

Mr. **Samuel**. No. Let me echo Sandy Trowbridge's comment that the Committee is to be congratulated for the leadership it is taking in this area. It is sorely needed and I hope it will result in effective legislation.

Mr. **Trowbridge**. Mr. Chairman, have you ever seen the National Association of Manufacturers and the AFL-CIO agree so often? [Laughter.]

Mr. **Samuel**. We agree on all kinds of things, maybe not minimum wage or trade deficits or worker dislocations, but——

Chairman **Glenn**. Well, to add on a serious note, we had better get some agreement in this area or we are not going to be competitive in the long-term future. I will turn that around a little bit here, because I think——

Mr. **Trowbridge**. It is the word called "survival" that gets everybody's attention.

Chairman **Glenn**. Yes, sir, we are all going to sink or swim together on this, whether we represent the manufacturers or labor, and it is going to be something we have to work out together and I guess that is the reason for these hearings.

I guess I should have said starting out that the whole consideration of trade legislation is broken up into I think five different packages that different committees have jurisdiction over, and ours obviously is the organizational aspects of this.

We have one of the broadest mandates on Capitol Hill, I guess, in this Committee and then we oversee the organizational aspects of government across the board, whatever it is, as well as the efficiencies of government which is the area we all go home and make speeches about on fat, fraud, waste, and abuse, and now we have the committee here looking into some of these areas, too.

Mr. **Trowbridge**. If I could just add one point, I am concerned, as I think many are, by the impact of budgetary restraints on some of the overseas activities of both our commercial service and foreign service and our ability to carry out policies.

I think it has been seriously jeopardized by the exigencies of the budget process. My guess would be that we ought to give some higher priority to the people overseas who are doing yeoman work, and I have been in a couple of countries recently where these people are 14 and 16 hours a day trying to help the American competitive position on the commercial service and indeed among the foreign service officers, too, and they need a lot of support.

Chairman **Glenn**. I think your observation probably also has been that other nations in that area—it has been my observation, anyway—other nations give far greater support to their business and commercial people. We are not even in the same league with most other countries on what they give in support of their embassies and consuls around the world. I agree with that, and I have supported every effort to not just keep those activities that we have over there but to expand them. When I was on the Foreign Relations Committee, I worked on that at considerable length.

Thank you very much, gentlemen. You have been very generous with your time this morning and we appreciate it. It has been very interesting also here this morning.

Mr. **Trowbridge**. Thank you.

Mr. **Samuel**. Thank you, Mr. Chairman.

Chairman **Glenn**. The Committee has now completed all hearings on competitivesness.

[Whereupon, at 11:35 a.m., the Committee was adjourned to reconvene at the call of the Chair.]

APPENDIX

Summary Statement by
Secretary of the Treasury
James A. Baker, III

Thank you, Mr. Chairman. If the committee has no objections, I would like to summarize my prepared testimony and ask that my full statement be submitted for the record.

President Reagan has established a national goal of assuring America's competitive pre-eminence into the 21st century. This is a call for aspirations, for achievement. We (and you) must use our influence to persuade the public that it's time for an American transformation.

This is an endeavor that must reach to the core of American society. Our businesses need to rely on their operational prowess and reputation for quality products, not government guardianship. Our capital markets must pay attention to the entrepreneur, to the little guy with the big ideas. Workers must take charge of their futures by making education and training a lifetime endeavor. Government, at every level, must encourage reform and excellence.

The President's strategy has six parts, and I will describe each briefly. Members of Congress are already studying the legislative package to implement this program that the President sent up on February 19.

First, we must increase our investment in human and intellectual capital. We need schools that prepare our children for a new technological age while building the values of old-fashioned striving and accomplishment.

Because the need for educational reform extends far beyond the classroom, we are also proposing a worker adjustment program to help an estimated 700,000 newly dislocated workers each year -- almost triple the number served under existing programs.

A second element of the strategy is to further America's pre-eminence in science and technology. We are launching initiatives to develop knowledge in advanced technologies; swiftly transfer new technologies to the marketplace; and expand the talent base in science and technology.

Third, we are taking steps to better protect U.S. intellectual property at home and abroad.

Fourth, we propose to reform outmoded antitrust laws, export controls, and other rules that place us at a disadvantage in the world marketplace.

Fifth, we urge continued efforts to control federal spending. The President's budget meets the Gramm-Rudman target for FY 1988 without raising taxes. We must add to the progress we expect to achieve in FY 1987. Now that we've turned the corner, we can't slacken our pace.

A final part of our strategy is to shape an international environment -- through new American leadership -- in which our knowledge, talent, and entrepreneurial abilities can flourish. In the past year, we have moved forward in the areas of economic cooperation, our debt initiative, and the pursuit of fair and open markets.

We have made progress in establishing the fundamental conditions for balanced global growth and a reduction in external imbalances.

The dollar has now depreciated substantially against the currencies of the other major industrial countries since its February 1985 peak; two-thirds of the adjustment has occurred since the Plaza Agreement of September 1985. The industrial countries have sustained moderate growth, and the non-oil exporting developing countries have turned in a fairly strong growth performance over the past year.

Many observers believe external imbalances among the major industrial countries peaked in 1986. The exchange rate changes have contributed to a leveling out of what had been an upward trend in the U.S. trade deficit. We are confident the cumulative effect of the changes will contribute significantly to a reduction of our trade deficit this year.

The challenge now is to achieve further substantial reductions in external imbalances. Exchange rates play an important role in the adjustment process, but they cannot and should not be the sole mechanism. To hold the costs of adjustment to a minimum, exchange rate changes must be complemented by stronger growth abroad and measures to adjust the structures of economies.

At a meeting last month in Paris, the Finance Ministers and Central Bank Governors of the major industrialized countries demonstrated that the efforts to achieve economic coordination that were agreed to at the Tokyo Summit last May are working. The surplus countries committed themselves to strengthen their growth prospects, while the deficit countries agreed to reduce their domestic imbalances.

The newly industrialized countries in Asia also have responsibility for contributing to the adjustment of our external imbalances. Open markets contributed much to the development of these economies. Many NICs are ready to enter the world trading system as full-fledged participants. One essential element will be that they follow policies that allow their currencies to better reflect economic fundamentals. And they must open their markets to foreign trade and investment.

We all have a stake in addressing constructively external debt difficulties among developing nations. We proceed not through quick-fix gimmicks, but through lasting solutions to underlying problems. Our debt strategy focuses on improving the debtor's growth potential through both macroeconomic and structural reforms, supported by modest new financing essential to meet the needs of growth.

Considerable progress has been made. Many debtors are already taking important steps to increase savings and investment, improve economic efficiency, privatize public enterprises, and encourage the return of flight capital.

The IMF has negotiated new standby programs with 8 of the 15 major debtors; the World Bank has negotiated new policy-based loans with 10 major debtors; and the commercial banks are moving to make new loans available, as exemplified by recent packages for Mexico and Nigeria. This is a good start, and we hope for further progress.

Renewed economic cooperation and our LDC debt strategy must be coupled with a vigorous trade strategy: firm opposition to unfair trade practices; market liberalization through bilateral and multilateral negotiations; and rejection of protectionism (in all its guises) as the greatest threat to a competitive America. Let me mention several measures we're taking.

As the President noted in his State of the Union address, we are engaged in historic negotiations with our largest trading partner, Canada, on a free trade agreement. We urge private citizens and organizations in the United States to work closely with us, so we can forge an agreement with Canada that best serves our economic interest.

In the new round in the GATT, we are working to ensure that the laws of the world trading system are relevant to the commercial realities of the 21st century.

We will continue to use our authority aggressively under the "war chest" program to counter foreign predatory financing practices.

We have proposed comprehensive statutory changes to improve our trade laws, including Sections 201 and 301, and our antidumping and countervailing duty laws.

The House is now drafting legislation on trade and some of the other areas identified in the President's program. I know you will also be discussing similar legislation.

Of particular concern to this Committee is the way in which the Federal Government is structured and organized to administer our trade laws and implement our trade policy. The existing organizational structure draws on the expertise of individual agencies and at the same time ensures that policy decisions are coordinated.

Current legislative proposals would undercut this system. They would eliminate the central role of the President in considering and balancing national economic and foreign policy interests. They would reduce our flexibility to negotiate on behalf of U.S. interests, and they ignore the progress the Administration has made in the last 18 months.

We are ready and willing to work with you to improve these laws. We need, however, to keep in mind that, for the most part, our trade laws have been effective instruments for opening foreign markets and defending Americans against unfair practices abroad. Regardless of reforms that are needed, the principle behind these laws stands firm: Competitive markets best serve America.

I want to mention briefly the important, but frequently overlooked, relationship between an open foreign investment policy and a competitive economy. Foreign direct investment brings jobs, capital investment, new technology, and new managerial skills to the United States. We must resist screening and restrictions that would put us in the company of those developing countries that are not competitive.

It is clearly the turn of our exporters to benefit from greater growth abroad and a more reasonably valued dollar. If they are to have access to markets abroad, however, we must keep our own markets open. We could not pick a worse time to unfurl the banner of protectionism.

We urge the Congress to measure proposals against five key considerations. Our proposals need to:

- facilitate the competitiveness of U.S. industry;
- conform to our international obligations;
- enhance our leverage in the Uruguay Round and in other international trade negotiations;
- avoid provoking costly retaliation against U.S. exports; and
- avoid spurring our trading partners to enact mirror legislation that would harm U.S. exports.

Some of the proposals we have seen conflict significantly with these principles. Without implying that these are the only troublesome notions that have been suggested, I stress today the Administration's resistance to the following measures:

- First, we oppose a general import surcharge. This surcharge could spur inflation, prompt retaliation by our trading partners, and hurt American industries that rely on imports.

- Second, we oppose sector-specific protection, such as establishing import quotas for individual products. This route not only has all the drawbacks of a surcharge but also would be unfair to industries not receiving favored treatment. The textile quota bill -- which the President vetoed -- is a case in point.

- Third, we oppose mandatory retaliation. Retaliatory proposals can be useful in bringing about a solution, but a rigid, statutorily mandated approach that dictates to foreign nations is unlikely to lead them to reduce barriers. It's more likely to result in a counterattack against U.S. exports.

- Finally, we oppose limits on Presidential discretion. If we are to be successful in negotiating more open markets, the President needs the flexibility to bargain. If our negotiators' hands are tied by statutory mandates to take certain actions in specific situations, they can be outmaneuvered. Or the negotiating process will break down, producing a protectionist result for everyone.

The foregoing proposals -- like some others under consideration -- are unwise and counterproductive. They are compatible with a rigid, high-cost market environment relying on protectionism. America has prospered for 200 years because it has been a dynamic, flexible, environment -- which has blended competition and cooperation to forge a unique economic union. We would be mistaken to reject this legacy.

Conclusion

The United States is facing new challenges in a changing world economy. The President's Competitiveness Initiative offers a program of action to insure that America addresses these challenges and enters the 21st century confident and strong.

I know that I and others in the Administration look forward to working with the Congress on this program. Together we can serve the public interest by encouraging the evolution of a vigorous, vibrant, forward-looking society -- one worthy of our heritage as a great trading nation.

Testimony of the Honorable James A. Baker, III
Secretary of the Treasury
Before the
Senate Committee on Governmental Affairs
March 25, 1987

Mr. Chairman and Members of the Committee:

It is a pleasure to meet with you today to discuss the President's proposals for improving the ability of the United States to compete in the world economy.

I know it is the intent of the Congress to fashion a bill that enhances America's standing as the preeminent economic power, not a bill that calls a protectionist retreat. In the area of tax reform, the Administration worked closely with the Congress to serve the national interest, often in the face of powerful factions demanding special treatment. I look forward to taking up that challenge with the Congress again in this new arena -- to ensure that the popular responses of the moment are subject to our reason and our judgment.

It is easy to understand the general concern. The trade figures are stark, and the newspaper headlines are grim. This concern -- and the anxiety which it provokes -- can prevent strategic thinking on the problems of international competitiveness and trade. It can lead to quick-fix solutions that aren't really solutions at all -- just reflexive measures with superficial appeal.

What is needed is a program of action that confronts the issue completely and for the long haul. The President's Competitiveness Initiative is such a program.

The President's Competitiveness Initiative

Of the many factors that affect the ability of a country to sell its goods and services both at home and abroad, no factor is more important than the competitiveness of its products.

How do we make competitive products? By running our businesses efficiently, by encouraging innovation and setting high standards of quality, and by making sure our workers have the skills they need not only for the tasks at hand but for the tasks to come. Government can either help this process or hurt it.

The President has established a national goal of assuring America's competitive pre-eminence into the 21st century. This is a call for aspirations, for achievement. We -- and you -- must employ our influence to persuade the public that it's time for an American transformation. This is an endeavor that must reach to the core of American society. Our businesses need to rely on their operational prowess and reputation for quality products, not government guardianship. Our capital markets must pay attention to the entrepreneur, to the little guy with big ideas. Workers must take charge of their futures by making education and training a lifetime endeavor. Government, at every level, must encourage reform and excellence.

To fulfill the Federal Government's responsibilities, the President has launched a six-part program aimed at:

-- Increasing investment in human and intellectual capital;

-- Promoting the development of science and technology;

-- Better protecting intellectual property;

-- Enacting essential legal and regulatory reforms;

-- Reducing the budget deficit; and

-- Shaping the international economic environment.

Each of these six elements will help make America -- and its products -- more competitive, thereby improving the standing of the United States in the world economy.

o Increasing Investment in Human and Intellectual Capital

To achieve competitive preeminence, we must increase our investment in human and intellectual capital. There is no resource more important than our own people.

We must continue the pursuit of excellence in our schools. Steps in this direction include emphasizing the mastery of basic subject matter, science, and computer skills, particularly at the elementary and secondary school level, and establishing a national goal of reducing illiteracy to ensure that every American learns to speak and write English so as to be able to participate fully in our society.

Because the need for educational reform extends beyond the classroom, the President has proposed a new $1 billion worker adjustment program that will:

-- Help an estimated 700,000 newly dislocated workers each year (almost triple the number served under existing programs). The program will cover all workers, including farmers, not just those affected by imports;

-- Offer counseling, job search assistance, basic education, and job skill training; and

-- Provide training and adjustment opportunities to workers early -- long before they exhaust unemployment benefits.

To achieve the goal of integrating the disadvantaged of our nation into the mainstream of American life, the President has also proposed two interrelated initiatives for recipients of Aid to Families with Dependent Children (AFDC). The first is the AFDC Youth Training program, which will allow states and localities to use $800 million for year-round remedial skill training and education for young people recieving AFDC assistance. The second is a new employment and training program in AFDC called Greater Opportunities Through Work (GROW). GROW will encourage teenage parents and children who have not completed high school to stay in or return to school.

Further, the President has proposed statutory amendments to refocus the Employment Service (ES) and to transfer responsibility for financing and administering state unemployment insurance and ES to the states. This will provide states greater flexibility in helping unemployed individuals get back to productive jobs.

By giving our children the education and training they need to become productive members of society, and by helping our workers adjust to the changing job environment, we can ensure the availability of the skill and talent required to fuel a growing, dynamic economy. This is the first element in creating a more competitive America.

o Promoting the Development of Science and Technology

The second element is promoting the development of science and technology -- the centerpiece of U.S. competitiveness.

The President's initiative in this area focuses on maintaining U.S. pre-eminence in initiating ideas and know-how and in translating these ideas into new products and processes. To this end, the President has identified three national objectives: generating new knowledge in advanced technologies; swiftly transferring new technologies to the marketplace; and expanding the nation's talent base in science and technology.

To achieve these objectives, the President has developed a variety of initiatives, including:

-- establishing a number of new university-based "Science and

Technology Centers" that will perform long-term science and engineering research in vanguard fields such as robotics and biotechnology;

-- promoting greater interplay between the public and private sector in the area of research and development (R&D) by improving industry access to the Federal science and technology enterprise and by creating special exchange programs;

-- continuing the Administration's strong budgetary support for basic research; and

-- seeking stability in the R&D tax credit.

All of these measures will contribute to building America's competitive base in a world economy that is increasingly technically oriented.

o Better Protecting Intellectual Property

The third element in the President's competitiveness initiative is better protection for intellectual property. It is vital to ensure adequate protection, both domestically and internationally, to those who create new ideas and invent new products and services.

We can do this by seeking statutory changes that would, for example, permit U.S. adherence to the Berne Convention for the Protection of Literary and Artistic Works, thereby expanding U.S. copyright relations to include 20 additional countries. We also urge a number of other measures to protect U.S. commercial interests, including directing Federal agencies to take into account the level of U.S. intellectual property right protection when negotiating international agreements or providing bilateral economic assistance.

o Enacting Essential Legal and Regulatory Reforms

Outmoded rules and regulations and self-imposed disincentives place us at a disadvantage in the world marketplace. The fourth element in the President's initiative therefore addresses the legal and regulatory reforms needed to eliminate such obstacles to competitiveness.

For example, the President has proposed statutory changes so that our antitrust laws reflect the dynamics of world trade. These comprehensive changes are aimed at enhancing the vigor of American businesses, while continuing to protect consumers and firms from monopolies, cartels, and price-fixing. In addition, the Administration has recommended to the Congress improvements in the system which will lessen the burden to U.S. business without diminishing U.S. national security.

o Controlling Federal Spending

The fifth element concerns Federal spending. The President has underscored his commitment to controlling Federal spending through introducing a budget that meets the Gramm-Rudman targets for FY 1988, without increasing taxes.

It is imperative that we maintain the deficit reduction momentum that we expect to achieve in FY 1987. I recognize that any venture involving budget cutting will breed differing views -- some strongly held. But now that we've turned the corner, we can't slacken our pace.

o Shaping the International Economic Environment

The sixth and final element of the President's Competitiveness Initiative involves shaping the international environment.

Experience of recent years has brought home to all of us here today just how interdependent the world economy has become. The effect on large segments of U.S. industry of deterioriating U.S. trading accounts has been painfully clear in this country. At the same time, our efforts to contain inflation have been aided importantly at various junctures by an appreciating dollar and declining international commodity prices. Nor can we overlook the role that capital inflows from abroad have played in supporting our own economic expansion.

The large U.S. trade deficit reflects the myriad linkages between our economy and the rest of the world. Exchange rate changes, the strong pace of U.S. economic growth relative to that of other major industrial countries, and the debt problems of the developing countries all have influenced our trade deficit. Our future performance on these counts will determine in large part our success in reducing that deficit.

The sixth element of the President's competitiveness initiative therefore focuses on shaping an international environment in which American knowledge, talent, and entrepreneurial abilities can flourish -- and in which American goods and services can compete freely and fairly both at home and overseas.

The President's program of action in this area covers a wide range of inter-related measures, including:

-- strengthening economic cooperation among the leading industrial countries to achieve improved, more balanced growth and the reduction in external imbalances necessary for greater exchange market stability;

-- pressing forward with the strengthened debt strategy to improve both growth and imports in debtor nations; and

-- pursuing an aggressive, comprehensive trade policy that focuses on creating open, competitive markets through vigorous bilateral and multilateral negotiations and tough-minded enforcement of U.S. trade laws.

International Economic Cooperation

During the past year, we have made progress in establishing the fundamental conditions for balanced global growth and a reduction in external imbalances. The dollar has now depreciated substantially vis-a-vis the currencies of the other major industrial countries since its February 1985 peak; two-thirds of the adjustment has occurred since the Plaza Agreement of September 1985. The dollar has declined 40-50 percent against the yen and the deutschemark since its early 1985 peak. The industrial countries have sustained moderate growth, and the non-oil exporting developing countries have turned in a fairly strong growth performance over the past year. Rates of inflation in the industrial countries have, with an assist from the decline in oil prices, fallen to the lowest levels since the 1960s. Key interest rates have continued to trend down. Progress has also been made in reducing fiscal deficits in the major industrial countries to more manageable levels.

Many observers believe external imbalances among the major industrial countries peaked last year. The U.S. current account deficit reached $141 billion in 1986, while the current surpluses of Japan and Germany were around $86 billion and $36 billion, respectively. Many forecasters think it likely that our current account deficit will decline this year to around $130 billion and that the Japanese and German surpluses will decline somewhat as well.

The effects of the exchange rate changes over the past two years on our international trade balance have not yet proved as quick or as strong as had been expected from past experience. However, exchange rate changes have contributed to a leveling out of what had been an upward trend in our trade deficit; and we are confident that the cumulative effect of the exchange rate changes thus far will contribute significantly to the reduction of our trade deficit this year. Initial signs are encouraging. In real terms, the volume of exports in the fourth quarter showed good growth while the real volume of imports (with oil declining) was flat. While exchange rate movements and price changes on imports and exports produced a narrow worsening of the nominal trade balance in the fourth quarter, the real net export balance improved noticeably. This improvement in real trade flows should presage an improvement in the nominal picture in the months ahead.

While the exchange rate changes over the last two years have been necessary to reduce external imbalances among the major industrial countries, they alone are of course not sufficient. This explains why we have given so much attention to the pace and pattern of growth among the industrialized countries.

By strengthening the process of economic coordination among the leading democracies, the Tokyo Summit agreement of last May helped lay the foundation for policies that will be more effective in promoting sustained world economic growth. At our meeting last month in Paris, the Finance Ministers and Central Bank Governors of a number of the major industrialized countries demonstrated that the process is working.

At the meeting, the surplus countries committed themselves to strengthen their growth prospects, while the deficit countries agreed to reduce their domestic imbalances. More specifically, Germany indicated that it plans to proceed with a major tax reform and to increase the size of its tax cuts scheduled for 1988, in addition to the action taken to lower its interest rates. For its part, Japan announced a cut in its discount rate to 2.5 percent and committed itself to prepare a comprehensive economic program to stimulate domestic demand.

The United States must also do its share. We must press forward with reductions in the Federal budget deficit. And we must continue to oppose protectionist pressures.

The Ministers and Governors also concluded that the substantial exchange rate changes since the Plaza Agreement had now brought their currencies within ranges broadly consistent with underlying economic fundamentals and that further substantial exchange rate shifts could damage growth and adjustment prospects. Therefore, in these circumstances, we agreed to cooperate closely to foster stability of exchange rates around current levels.

Finally, the Ministers and Governors recognized that responsibility for actions contributing to the adjustment of our external imbalances does not rest with the major industrial countries alone. The newly industrialized countries in Asia have also come to play a significant role in international trading patterns. Open markets contributed much to their development, and many of them are now ready to be brought into the world trading system as full-fledged participants. Therefore we urged these countries to assume greater responsibility for preserving an open world trading system by reducing trade barriers and pursuing policies that allow their currencies to better reflect economic fundamentals.

International Debt

This Congress is well aware of the close linkages between debt and trade, as well as their common connection to global growth and financial stability. We all have a stake in constructively addressing international debt difficulties -- not via quick-fix gimmicks, but through lasting solutions to underlying problems.

I recognize that it is politically tempting to search for dramatic gestures which could sharply reduce debt service burdens overnight, or significantly increase the financial resources available to debtor nations to import our goods. Across-the-board debt forgiveness, in this light, may have some mistaken appeal, but would ultimately damage both debtor nations and the global economy. External capital would be available to debtors at prohibitive prices, if at all; bank losses would weaken some of our important financial institutions; and U.S. budget and taxpayer costs would increase significantly.

Similarly, calling for massive new lending (by others) to the debtor nations, either bilaterally or through a new multilateral fund, may appear to offer an easy way to boost U.S. exports and growth in the debtor nations. But without fundamental policy reforms, neither U.S. exports nor debtor growth can be sustained for the longer term. Throwing money at the debtor nations won't solve their problems; it will, in fact, worsen their difficulties unless the new financing can be productively absorbed and is consistent with their ability to grow and service debt.

In contrast to these "overnight" solutions, our debt strategy focuses on improving the debtors' growth potential through both macroeconomic and structural reforms, supported by modest new financing essential to meet immediate needs. Despite the relatively short period which has passed since we proposed this debt initiative, considerable progress has been made.

-- Many debtors are already taking important steps toward increasing savings and investment, improving their economic efficiency, privatizing public enterprises, and encouraging the return of flight capital.

-- The IMF has negotiated new standby programs with 8 of the 15 major debtors since October 1985, including new loan commitments of about $4.7 billion.

-- The World Bank has negotiated $2.9 billion in new policy-based loans with 10 major debtors, and has discussions underway on nearly $5 billion in additional policy-based loans. Aggregate World Bank loan commitments to these debtors increased by 40 percent during its fiscal year 1986, and a substantially larger share of loans is now based on structural policy reforms.

-- The commercial banks are also moving to make new loans available, as exemplified by the recent $7.7 billion package for Mexico and a $320 million new money package for Nigeria. Nearly $70 billion in debt reschedulings have been negotiated with the major debtors since October 1985. A number of other financing packages and reschedulings are also now under discussion.

-- In terms of overall financial flows linked to policy reforms in debtor countries, there have been a number of important developments in the past 18 months. These include supportive financing or specific Paris Club and commercial bank debt relief for all of the 15 major debtors, with the exception of Peru, since October 1985. Reschedulings by the Paris Club, over and above the $70 billion of commercial bank rescheduling, have provided longer maturities at lower rates and spreads on an additional $14.5 billion of outstanding debt.

This is a start -- a good one. We hope for further progress, but realistically must recognize that it will be gradual and will vary among nations, depending upon their own determination to implement growth-oriented reforms and the continued active support of the international community. That is the task before us, and the only true solution to international debt problems.

International Trade

Renewed economic cooperation and the strengthened LDC debt strategy must be coupled with a hard-hitting trade strategy, the third aspect of the President's initiative to shape the international economic environment. This strategy builds on the pillars of our trade policy to date -- a tough position on unfair trade practice at home and abroad; market liberalization through results-oriented bilateral and multilateral negotiations; and rejection of protectionism, in all its guises, as the single greatest threat to the competitive future of America.

The President's initiative encompasses the following:

-- Aggressively Opening Markets. The President will not tolerate closed markets, trade barriers, and unfair subsidies which deny American firms a fair chance to compete. The Administration will expand its efforts to open foreign markets through vigorous bilateral and multilateral negotiations and by using our trade laws to eliminate unfair trade practices wherever they occur.

-- Negotiating a Free Trade Agreement with Canada. The Administration is now engaged in historic negotiations with our largest trading partner, Canada, on a free trade agreement that will improve commercial opportunities on both sides of the border and serve as a model for trade liberalization on a global scale. We will work with the Canadians and Congress to conclude an agreement in our mutual interest. We also urge private sector parties from the United States to work closely with us, so we can forge an agreement that best serves our economic interests.

-- Negotiating in the GATT. The President will work to ensure that the laws of the trading system are relevant to the commercial realities of the 21st century. The U.S. Trade Representative will press hard for meaningful results from the Uruguay Round of multilateral trade negotiations in areas critical to America's competitive future, including agriculture, services, intellectual property rights, and investment.

-- Attacking Foreign Predatory Financing. The Administration has aggressively used the "war chest" monies provided last year to attack foreign predatory financing practices. As a result, we reached an agreement on March 15, 1987, with other industrialized countries, including Japan and the European Community, which would control the unfair trade practice of using tied aid credits for export promotion. To put our trading partners on notice that we will use our full authorities to ensure full implementation of this agreement, the President has asked the Congress for the additional $200 million promised for the "war chest."

-- Improving U.S. Trade Laws. We have proposed comprehensive statutory changes to improve our trade laws in ways that will enhance our ability to meet the challenges from abroad without erecting protectionist barriers at home. The President's proposals include:

- obtaining negotiating authority for the Uruguay Round;
- replacing the antidumping law with a new, predictable pricing remedy to cover products from nonmarket economies and tightening antidumping and countervailing duty laws through new anti-circumvention provisions to prevent evasion of duties;
- amending Section 301 to establish a 24-month deadline on dispute settlement cases and to improve coordination with Congress through reports on the commercial effects of Section 301 cases;
- establishing reciprocal access to foreign markets as an additional factor in consideration of a Section 301 case;
- amending Section 201 to provide expedited relief for perishable products and to create additional options for relief, including multilateral negotiations and regulatory relief; and
- seeking improvements to the Export Trading Company Act and a reform of the Foreign Corrupt Practices Act.

The Administration has submitted its proposals to the Hill, and the House is now drafting legislation on trade and some of the other areas identified in the President's program. The Senate will soon be discussing similar legislation.

Of particular concern to this Committee is the way in which the Federal Government is structured and organized. The existing organizational structure draws on the expertise of individual agencies and at the same time ensures that policy decisions are coordinated.

Current legislative proposals undercut this system of government by transferring certain decision-making authority from the President to the U.S. Trade Representative and by requiring the Trade Representative to take independent action (both negotiation and retaliation) on exchange rate issues. Both proposals wrongly eliminate the central role of the President in considering and balancing national economic and foreign policy interests.

In addition, I believe the second proposal -- delegating authority for international monetary policy to the Trade Representative -- is unnecessary in view of the Administration's highly successful efforts in the last 18 months to achieve a more realistic realignment of major currencies, put in place a mechanism for closer coordination of economic policies, and maintain ongoing efforts with the newly industrialized countries. The proposal is also one-dimensional and short-sighted. As the principal financial advisor to the President, I can assure you that there are many economic factors other than exchange rates that must be considered when evaluating external imbalances.

I want to emphasize the Administration's readiness and willingness to work with the Congress to make the changes that are necessary to address the issues at hand. However, we need to keep in mind that our system of government and our trade laws have proven to be effective instruments for opening foreign markets and defending Americans against unfair practices on the part of our trading partners. A few changes are needed in our trade laws, as I noted above, and we will strive to make these improvements. Nonetheless, regardless of the reforms that need to take place, the basic principle behind these laws stands firm: competitive markets serve America's interests best.

I also want to mention briefly the important, but frequently overlooked, relationship between an open foreign investment policy and a competitive economy. Foreign direct investment brings jobs, capital investment, new technology, and new managerial skills to the United States. These are essential ingredients to make our firms more competitive at home and in world markets. Our open investment policy permits exceptions for national security interests. We are currently reviewing whether we can establish criteria to clarify those exceptions. But we must resist screening and restrictions that would put us in the company of some developing countries which are not competitive and have difficulty attracting foreign investment. This is not in the self-interest of the United States.

It is clearly the turn of our exporters to benefit from greater growth abroad and a more reasonably valued dollar. If they are to have access to markets abroad, however, we must maintain the openness of our own markets. We could not pick a worse time than now to unfurl the banner of protectionism.

Guidelines for Change

In working with the Congress, the Administration's approach will be guided by five key considerations. Our actions need to:

- -- facilitate the competitiveness of U.S. industry;
- -- conform to our international obligations;
- -- enhance our leverage in the Uruguay Round and in other international trade negotiations;
- -- avoid provoking costly retaliation against U.S. exports; and
- -- avoid prompting our trading partners to enact mirror legislation that would harm U.S. exports.

Some of the trade proposals we have seen from the Hill conflict significantly with these principles. Without implying that these are the only troublesome notions that have been suggested, I should stress today that the Administration would have to resist the following legislative measures:

- -- A general import surcharge. Such a surcharge could spur inflation, prompt retaliation by our trading partners, and hurt American industries that rely on imported inputs.
- -- Sector-specific protection, such as establishing import quotas for individual products. This route not only has all the drawbacks of a surcharge but also could be unfair to industries not receiving favored treatment. The textile quota bill -- which the President vetoed -- is a good case in point.
- -- Mandatory retaliation. Mandatory retaliation -- linked, for example, to a country's bilateral or global trade surplus -- is too inflexible. Threats can be useful to negotiate a solution, but a rigid, statutorily mandated approach that dictates to foreign governments can make them less likely to agree to reduce barriers and more likely to dig in and counterattack by closing their markets to U.S. exports.
- -- Limits on Presidential discretion. If we are to be successful in negotiating more open markets, the President needs the flexibility to bargain. The President should have at his disposal a full range of policy tools in order to promote open, competitive markets at home and abroad. If our negotiators are constrained by legislative requirements to take certain actions in specific situations, they can be outmaneuvered. Or the negotiating process will break down, producing protectionist results for everyone. Without sufficient authority, U.S. negotiators will not be able to

obtain concessions.

Let me reiterate that the four proposals about which I have just spoken are not the only ones which are troublesome to the Administration. My point is that the foregoing proposals, like some others being weighed, are counterproductive. Such approaches are compatible with a rigid, high-cost market environment relying on protectionism. America has prospered for 200 years because it has been a dynamic, flexible environment -- which has blended competition and cooperation to forge a unique economic union. We would be mistaken to reject this legacy.

Conclusion

There is growing recognition that the United States faces new competitive challenges as a result of fundamental changes in the world economy. The United States must meet these competitive challenges to maintain its economic strength and world leadership. The President's Competitiveness Initiative offers a program of action for ensuring that America is well prepared to meet these challenges and to enter the 21st century confident and strong.

I know that I and others in the Administration look forward to working with the Congress on this program. Together we can serve the public interest by encouraging the evolution of a vigorous, vibrant, forward-looking society -- one worthy of our heritage as a great trading nation.

RESPONSES OF SECRETARY BAKER TO WRITTEN QUESTIONS SUBMITTED BY SENATOR GLENN

QUESTIONS FROM SENATOR GLENN

(1) As your testimony makes clear, the US no longer operates as a "closed economy" and it is truly striking how internationalized our economy has become within the last decade or so. Have our competitiveness and trade policy-making institutions sufficiently changed with the times? How? What improvements would you make?

(2) It is my understanding that this year's annual report of the President's Council of Economic Advisors, in contrast to the President's initiatives your testimony described, downplays the need for a competitiveness policy. Indeed, the Chairman of the CEA has said "many of the problems that have adversely affected the economy are behind us". The disparate views of this Administration on competitiveness and trade policy have not gone unnoticed. The Wall Street Journal, for example, a publication not known as a bastion for detractors of the Administration, said the CEA report "underscores the deep ambivalence in the Reagan Administration about the competitiveness issue".

This leads me to ask you several questions.

(a) Do the mixed signals about the Administration's competitiveness and trade policy worry you?

(b) What role do you see the Treasury Department taking in enhancing the nation's competitiveness and how will that role fit in with the rest of the Executive Branch agencies?

(c) Are there persons in your Department that, as a matter of course, prepare and disseminate analyses of the direct and indirect effects of the Department's actions on competitiveness and trade? In a day-to-day context how is the Department made aware systematically of similar actions taken by other agencies? How is the private sector routinely made aware of such actions?

(3) In your testimony you stated, in the context of working out a free trade agreement with Canada, that you urge private sector parties to work closely with you so you can devise a policy that best serves the nation's interests. I, too, strongly believe the private sector -- both business and labor -- should work closely with government. When the President set up his Commission on Industrial Competitiveness, headed by John Young, he structured that group to represent the varied interests of government, business, labor, and academia; thus he must believe in the principle that it is vital to have a forum where those parties interact. Would it make sense for the President, as well as for Congress, to have such a sanctioned group be a permanent institution, such as that proposed in Title 10 of S. 374?

(4) My concern in this Committee is to consider legislative changes that will enhance our nation's competitiveness not only in the next two years or so, but in the long run. Beyond what is in the President's package and beyond the proposed legislation before this Committee, what competitiveness policy actions for the long run should we be considering in this Congress?

(5) At the hearings you indicated the Administration did not yet have a formal position on the creation of a Department of International Trade and Industry, such as that proposed in S. 330. Has such a position been formalized yet? What is it?

ANSWERS TO QUESTIONS FROM SENATOR GLENN

(1) As our economy has become more international, the relevant range of considerations we take in making policy has changed to some degree, I agree. The international competitive situation, the international monetary setting, and other relevant factors evolve, too. These changes may require changes in our policies on occasion, but rarely dictate organizational adjustments. I think the President's package of proposals to enhance our national competitiveness, together with the use of the EPC to ensure consideration of trade issues in all economic policy decisions and the Administration's many actions to ensure a "free but fair" trade, constitute a significant adaptation to changed circumstances which is a lot more valuable than new bureaucracies.

(2) (a) I don't see any mixed signals coming from this Administration on the question of the importance of national competitiveness. The "Economic Report of the President", which you describe as downplaying this issue, actually strongly endorses the President's initiative at the bottom of p. 118.

(b) The Treasury Department's role is to help ensure an environment of financial stability, including low inflation, in which there are ample incentives to invest and work--in short, produce. It is this production which is at the core of competitiveness. To play this role effectively requires Treasury involvement in myriad policy arenas--tax, trade, monetary... Because of the sweeping nature of the Treasury Secretary's interests, the President has designated him the Chairman Pro Tem of the Economic Policy Council (EPC) which reviews all major economic questions. On most of the issues which come before the EPC, though, Treasury does not have the expertise or lead responsibility. As a result, our role often tends to be supportive of the other agencies involved, while seeking to maintain a general consistency of individual policy decisions with our overall objectives.

(c) Competitiveness is an abstract concept, but it boils down to economic efficiency. This is one of the major criteria that the Treasury Department and the Reagan Administration in general look to in deciding policy questions. As examples, we reduced the artificial incentives to certain activities in the tax code with last year's reform and, more generally, want to get government out of private sector decisions. In evaluating the efficiency implications of a particular policy, Treasury does not necessarily prepare and disseminate detailed analyses, just as we don't for the other concerns we have, such as resource limitations, social welfare effects, etc. Treasury regularly has an opportunity to review and comment on the positions of other agencies on regulatory and legislative issues through the system of clearances maintained by the Office of Management and Budget. Administration actions are published in the Federal Register and proposals for such actions are frequently published in advance for comment and discussed with appropriate advisory groups.

(3) The Administration has at its disposal a vast array of information and advice on our trade performance and policies. We have formally constituted advisory groups from labor, agriculture, the services sectors, the various industrial groupings focused on the trade issues and get a broader perspective from bodies such as the President's Export Council. There are also dozens of private interest groups nationally with which I and other members of the Administration regularly meet. I don't think another standing advisory committee would be useful, much less cost-effective.

(4) Competitiveness in our private sector cannot be legislated through more or different government bureaucracy. We should continue to try to reduce at the margin the degree of government interference in the operations of the private sector, without sacrificing legitimate public welfare concerns such as health. We also should try to reduce the fiscal burden which the federal budget deficit places on the economy through greater restraint in federal expenditures. The President has made proposals to this end in his FY1988 budget. My colleagues at the recent ministerial meeting of the Organization for Economic Cooperation and Development made this point as well and I would urge Congress to do its utmost in this regard.

(5) The Administration is in the process of developing a formal, coordinated position on pending reorganization legislation which you should receive shortly.

RESPONSES OF SECRTARY BAKER TO WRITTEN QUESTIONS SUBMITTED BY SENATOR BINGAMAN

QUESTIONS FROM SENATOR BINGAMAN

(1) The current statutory Trade Policy Council seems to be ignored as the major policymaking body, in favor of the nonstatutory Economic Policy Council. Would you explain where and how our trade policy is made? For example, are the two lower level committees under the Trade Policy Council, the Trade Policy Review Group and the Trade Policy Staff Committee, still active?

(2) Given the broad agenda of the Economic Policy Council, it seems as if trade policy is overwhelmed by other economic issues. Because of this problem and the others cited above, we have proposed in S. 489 a reconstitution of the Trade Policy Council into a National Trade Council, headed by the President. What are your comments on the proposed National Trade Council? Do we need to provide a statutory basis for the Economic Policy Council instead with a specific trade subcouncil?

ANSWERS TO QUESTIONS FROM SENATOR BINGAMAN

(1) The Trade Policy Staff Committee and the Trade Policy Review Group are quite active. In fact, a decade ago the TPRG generally met only to resolve disputes that could not be settled at lower levels. Now it regularly prepares issues for discussion at the EPC and subsequent recommendation to the President and holds strategy sessions.

(2) There is no advantage to setting in law any particular system of councils or committees to advise the President. I think each President should have the flexibility to construct his high-level advisory bodies in a fashion which he finds most useful. For example, it has been useful to review trade questions with other economic policy issues because the interaction among these issues is often significant. As to the EPC possibly being overwhelmed by the breadth of its responsibility to the detriment of trade, I think this unlikely. The EPC often reviews several trade issues each week and I think it unlikely that any more such cabinet level attention would result if a separate group were constituted.

PREPARED STATEMENT OF MALCOLM BALDRIGE

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: THANKS FOR THE OPPORTUNITY TO APPEAR BEFORE YOU TODAY.

MR. CHAIRMAN, PRESIDENT REAGAN HAS ESTABLISHED THE NATIONAL GOAL OF ASSURING AMERICAN COMPETITIVE PREEMINENCE INTO THE 21ST CENTURY. THE PACKAGE HE SENT TO THE CONGRESS LAST MONTH LAUNCHES A SIX-PART PROGRAM TO ACCOMPLISH THAT, BUT WE ARE UNDER NO ILLUSION THAT GOVERNMENT ACTION ALONE CAN IMPROVE OUR COMPETITIVENESS. IN FACT, MANY OF OUR PROPOSALS ARE BASED ON THE NEED TO FURTHER REDUCE GOVERNMENT'S ROLE IN PRIVATE SECTOR AFFAIRS.

GOVERNMENT INVOLVEMENT DISTORTS THE DECISION-MAKING PROCESS. IT MAKES FOR A LOT OF BAD DECISIONS, AND EVEN THE GOOD ONES OFTEN GET MADE FOR THE WRONG REASONS. THE SHORTEST ROUTE FROM HERE TO WHERE WE WANT TO GO IS THROUGH REDUCED GOVERNMENT EXPENDITURES, REDUCED INTERFERENCE IN THE MARKETPLACE, AND REDUCED REGULATORY BURDENS.

THAT'S NOT TO SAY THAT THERE IS NO ROLE FOR GOVERNMENT. THE PRESIDENT'S PACKAGE IS FULL OF IDEAS WHERE GOVERNMENT CAN LEND A HAND - AND EVEN LEAD THE WAY. BUT THE BIGGEST RESPONSIBILITY FOR COMPETING RESTS WITH THE COMPETITORS. THOSE ARE OUR FIRMS, LARGE AND SMALL, THAT ARE TRYING TO SURVIVE AND PROSPER IN THE GLOBAL MARKETPLACE.

WHAT IS GOVERNMENT'S ROLE? WE SHOULD PROVIDE A STABLE ECONOMIC CLIMATE. BUSINESSES NEED ECONOMIC CERTAINTY, SO THEY CAN PLAN EFFECTIVELY, AND INVEST EFFICIENTLY IN NEW PRODUCT DESIGNS, PLANTS AND EQUIPMENT. WE NEED TO AVOID SITUATIONS SUCH AS THE LAST DECADE, WHEN RISING INFLATION AND INTEREST RATES WHIPSAWED AMERICAN BUSINESS AND HELD US BACK.

WE SHOULD PROVIDE PROGRESSIVE ECONOMIC LEADERSHIP. WE SHOULD CONSTANTLY BE LOOKING FOR WAYS TO GET OUT OF THE MARKETPLACE, NOT INTO IT. WE SHOULD NOT BE MAKING CHOICES THAT THE MARKET MAKES

BEST.

WE SHOULD PROVIDE AGGRESSIVE REPRESENTATION FOR OUR FIRMS ABROAD.

FINALLY, WE SHOULD UNDERTAKE INITIATIVES ONLY WHERE WE ARE CONVINCED THE PAYOFF IS THERE. AND THEN, WE SHOULD GET OUT OF THE WAY AFTER THE FUSE IS LIT. GOVERNMENT SHOULD NEVER PUT ITSELF IN COMPETITION WITH THE PRIVATE SECTOR.

THE PRESIDENT'S PROGRAM, WITH OTHER INITIATIVES ALREADY UNDER WAY, CONTAINS, IN MY VIEW, THE RIGHT MIX FOR THE COUNTRY.

FIRST, OUR PROGRAM STARTS WITH A BUDGET THAT MEETS THE DEFICIT REDUCTION TARGET IMPOSED BY GRAMM-RUDMAN-HOLLINGS. REDUCING OUR DEFICIT IS THE MOST IMPORTANT STEP WE CAN TAKE, MR. CHAIRMAN, TOWARD RENEWED COMPETITIVENESS. OUR OVER-SPENDING IS DISTORTING OUR CREDIT MARKETS, RAISING THE REAL COST OF CAPITAL, AND INDENTURING OUR CHILDREN AND THEIR CHILDREN TO FOREIGN CREDITORS.

WE'VE GOT TO BREAK THAT CYCLE.

SECOND, WE ARE PROVIDING OUR FIRMS WITH THE MOST AGGRESSIVE AND EFFECTIVE REPRESENTATION ABROAD THAT THEY HAVE EVER HAD.

- THE PRESIDENT'S TRADE STRIKE FORCE, WHICH I CHAIR, HAS EXAMINED MAJOR UNFAIR TRADING PRACTICES ABROAD. WE'VE MADE RECOMMENDATIONS TO THE PRESIDENT ON SEMICONDUCTORS, AIRBUS, INTELLECTUAL PROPERTY RIGHTS, TRADE-RELATED PERFORMANCE REQUIREMENTS, AND SUPERCOMPUTERS.

- THE ADMINISTRATION HAS SELF-INITIATED A SERIES OF SECTION 301 AND ANTIDUMPING INVESTIGATIONS - THE FIRST TIME ANY PRESIDENT HAS DONE THIS.

- WE'VE INITIATED THE URUGUAY ROUND OF TALKS TO BRING MORE OF OUR TRADE -- PARTICULARLY INVESTMENT, SERVICES AND AGRICULTURAL TRADE -- UNDER GATT RULES. WE HAVE TO DO THIS IF U.S.

PRODUCTS AND SERVICES ARE TO HAVE UNIMPEDED ACCESS TO MARKETS ABROAD. WE ARE ALSO NEGOTIATING WITH CANADA ON A COMPREHENSIVE BILATERAL FREE TRADE AGREEMENT WHICH WE HOPE TO CONCLUDE THIS YEAR.

- WE ARE AGGRESSIVELY SEEKING OPEN MARKETS FOR U.S. PRODUCTS AND SERVICES - A VITAL PART OF ANY PROGRAM. OUR EFFORTS HAVE INCLUDED MOSS TALKS WITH JAPAN, THE KANSAI AIRPORT DISCUSSIONS, MARKET ACCESS TALKS WITH TAIWAN AND KOREA, AND MARKET ACCESS FACT-FINDING CONSULTATIONS ON TELECOMMUNICATIONS ISSUES WITH SEVERAL EUROPEAN GOVERNMENTS. THE RESULTS SO FAR HAVE BEEN MIXED, BUT I'M OPTIMISTIC THAT WE'LL SEE PROGRESS IN THE MONTHS AHEAD.

THIRD, WE'RE DOING OUR PART TO REMOVE REGULATORY BURDENS THAT IMPEDE OUR FIRMS' ABILITY TO COMPETE.

- OUR PRODUCT LIABILITY LAWS HAVE BECOME A BURDEN ON THE

COMPETITIVENESS OF UNITED STATES BUSINESS. AS THE COSTS ASSOCIATED WITH OUR PRODUCT LIABILITY SYSTEM CLIMB UPWARD, THEY ARE REFLECTED IN HIGHER UNIT PRICES. THIS MAKES U.S. PRODUCTS LESS ATTRACTIVE BOTH AT HOME AND IN FOREIGN MARKETS.

- OUR ANTITRUST LAWS ARE ANOTHER PROBLEM AREA. THEY WERE ENACTED, AMENDED, AND INTERPRETED BACK IN THE DAYS WHEN AMERICAN BUSINESS FACED NO REAL FOREIGN COMPETITION. PARTS OF THESE LAWS NO LONGER FIT THE REAL WORLD IN WHICH AMERICAN FIRMS MUST NOW DO BUSINESS. THE IMPACT OF COOPERATIVE EFFORTS OR MERGERS, AND THEREFORE THEIR LEGALITY, CANNOT BE VIEWED IN LIGHT OF JUST THE DOMESTIC MARKET. WE WANT TO UPDATE AND CLARIFY THESE LAWS TO RECOGNIZE THE REALITY OF TODAY'S INTERNATIONAL MARKETS.

- OUR EXPORT CONTROLS ARE ANOTHER AREA OF GREAT CONCERN TO ME. NATIONAL SECURITY DEMANDS A STRONG INDUSTRIAL BASE, AND THIS

INDUSTRIAL BASE, IN TURN, DEPENDS UPON THE STRENGTH AND VIGOR OF OUR ECONOMY. AMERICAN COMPANIES MUST BE HEALTHY AND PRODUCTIVE IF WE ARE TO COUNT ON THEM FOR MANY OF THE TECHNOLOGICAL BREAKTHROUGHS THAT ARE SO VITAL TO OUR NATION'S DEFENSE. WE MUST NOT, THEREFORE, CONTINUE TO BITE THE HAND THAT FEEDS US. NATIONAL SECURITY IS COMPRISED OF BOTH ECONOMIC AND MILITARY SECURITY. WE MUST STOP SUBJECTING TO OVER-CONTROL AND UNDUE CONTROLS THE VERY SAME PRIVATE SECTOR COMPANIES UPON WHICH WE RELY TO KEEP US TECHNOLOGICALLY SUPERIOR TO OUR ADVERSARIES. WE MUST LIMIT THE ROLE OF GOVERNMENT TO DOING ONLY THAT WHICH IS TRULY NECESSARY TO PROTECT NATIONAL SECURITY.

o OUR FOREIGN CORRUPT PRACTICES ACT IS ANOTHER AREA, WHERE WE OUGHT TO MAKE A CHANGE. THE AVERAGE BUSINESSMAN IS NOT SURE WHAT PRACTICES ARE PROHIBITED AND WHAT PRACTICES ARE PERMITTED UNDER THE ACT, BUT HE KNOWS FOR SURE THAT HE WILL BE SUBJECT TO CRIMINAL LIABILITY IF HE GUESSES WRONG. THIS

UNCERTAINTY HAS COST US BUSINESS, AND INCREASED THE COST OF THE BUSINESS WE'VE HAD. WE JUST CAN'T AFFORD TO PLACE NEEDLESS HURDLES IN THE WAY OF LEGITIMATE EXPORTS.

INTELLECTUAL PROPERTY IS YET ANOTHER AREA OF CRITICAL IMPORTANCE TO OUR COMPETITIVENESS, MR. CHAIRMAN. INTELLECTUAL PROPERTY REPRESENTS A HUGE INVESTMENT BY U.S. FIRMS, AND WE CANNOT BE COMPETITIVE IF THE FRUITS OF AMERICAN INGENUITY ARE BEING STOLEN. THE PRESIDENT HAS PROPOSED SWEEPING CHANGES TO U.S. INTELLECTUAL PROPERTY LAWS. WE'VE ALSO GOTTEN TOUGH ON OUR TRADING PARTNERS. AND WE'VE BEGUN TO SEE RESULTS.

THERE ARE A NUMBER OF CHANGES TO OUR TRADE LAWS WE'RE PROPOSING AS WELL, MR. CHAIRMAN. WE NEED FAST-TRACK AUTHORITY TO IMPLEMENT AGREEMENTS WE NEGOTIATE IN THE NEW GATT ROUND. WITHOUT IT, WE LACK CREDIBILITY AND WILL FIND IT HARD TO MEET OUR MANY OBJECTIVES THERE. WE'RE PROPOSING REFINEMENTS TO SECTION 201 AND 301 OF THE 1974 TRADE ACT TO MAKE SURE THESE PROVISIONS ARE AS

EFFECTIVE AS THEY CAN BE. WE'VE PROPOSED CHANGES TO OUR ANTI-DUMPING AND COUNTERVAILING DUTY LAW TO DEAL WITH CIRCUMVENTION PROBLEMS WE'VE HAD, AND TO CLARIFY THE BENCHMARK FOR DEALING WITH GOODS FROM NONMARKET ECONOMIES.

IN ADDITION, WE'VE PROPOSED CHANGES TO THE EXPORT TRADING COMPANY ACT TO MAKE THAT PROGRAM MORE ACCESSIBLE AND PROMOTE EXPORTS.

FINALLY, THE PRESIDENT'S PROPOSALS INCLUDE A NUMBER OF INITIATIVES IN THE AREA OF SCIENCE AND TECHNOLOGY, MR. CHAIRMAN. MOST OF OUR FIRMS DO NOT TAKE ADVANTAGE OF OUR UNPARALLELED TECHNOLOGY BASE. IN SOME CASES, OUR COMPETITORS MAKE BETTER USE OF IT THAN WE DO. WE'VE GOT TO MAKE SURE THAT FEDERALLY FUNDED TECHNOLOGY IS MORE READILY AVAILABLE TO OUR FIRMS, AND WE ARE SEEKING WAYS TO SPIN IT OFF AND PUT IT TO WORK. AND WE ARE WORKING COOPERATIVELY WITH STATE GOVERNMENTS AND PRIVATE FIRMS TO PIONEER NEW MANUFACTURING TECHNOLOGIES AND INTRODUCE PROCESS CONTROL AND QUALITY ASSURANCE INTO THE MANUFACTURING PROCESS.

I KNOW OF THIS COMMITTEE'S INTEREST IN TRADE REORGANIZATION, MR. CHAIRMAN, SO I'D LIKE TO MAKE A COUPLE OF OBSERVATIONS ABOUT THAT. FIRST, AS THIS COMMITTEE KNOWS, THE ADMINISTRATION SUPPORTED TRADE REORGANIZATION IN THE 98TH CONGRESS. THE FOLLOWING YEAR, THE ADMINISTRATION DECIDED NOT TO SUBMIT A TRADE REORGANIZATION BILL. THE ISSUE HAS NOT BEEN FORMALLY BROACHED WITHIN THE ADMINISTRATION SINCE THEN.

AT THIS TIME, MR. CHAIRMAN, I WOULD BE HAPPY TO ANSWER ANY QUESTIONS THAT YOU MIGHT HAVE. THANK YOU VERY MUCH.

RESPONSES OF SECRETARY BALDRIGE TO WRITTEN QUESTIONS SUBMITTED BY SENATOR GLENN

QUESTION:

IN YOUR TESTIMONY YOU SAID THAT THE PRESIDENT'S INITIATIVES, AND OTHER REFORMS ALREADY UNDERWAY, FORM THE RIGHT MIX IN PROMOTING THE NATION'S COMPETITIVENESS. BEYOND THE TIME HORIZON OF THIS ADMINISTRATION, ARE THERE ADDITIONAL REFORMS YOU WOULD LIKE TO SEE IN THIS REGARD?

ANSWER:

No. The President's initiatives are intended to renew and promote competitiveness into the twenty-first century. There is no quick fix for our competitiveness problems. Subsequent Administrations must build upon what we accomplish, and continue to encourage the innovative process that can produce the leading-edge technology necessary for competitiveness.

QUESTION:

CLEARLY, YOU BELIEVE GOVERNMENT HAS A FUNCTION TO PLAY IN COMPETITIVENESS AND TRADE POLICY WHEN NATIONAL SECURITY CONCERNS ARISE, AS YOUR ROLE IN THE PROPOSED FAIRCHILD-FUJITSU MERGER DEMONSTRATES. I NOW UNDERSTAND YOU ARE KEEN ON ESTABLISHING A TOUGH NEW FEDERAL POLICY ON FOREIGN TAKEOVERS OF U.S. FIRMS. AS YOU ARE AWARE, FOREIGN INVESTMENT IN THIS COUNTRY OVER THE PAST DECADE HAS AMOUNTED TO OVER $1 TRILLION AND THIS INVESTMENT HAS ALLOWED US TO MAINTAIN OUR STANDARD OF LIVING DESPITE HUGE MERCHANDISE TRADE DEFICITS AND FEDERAL BUDGET DEFICITS. I BELIEVE THE CANCELLATION OF FAIRCHILD-FUJITSU ALREADY HAS SENT A STRONG SIGNAL TO PROSPECTIVE FOREIGN INVESTORS. IF, IN ADDITION, NEW REGULATIONS ON FOREIGN INVESTMENT ARE PROMULGATED, WON'T THEY HAVE THE EFFECT OF THREATENING OUR STANDARD OF LIVING IF ESTABLISHED FOREIGN INVESTORS PULL OUT? HOW DO YOU PROPOSE TO BALANCE (OR COORDINATE) OUR FOREIGN INVESTMENT POLICY WITH OUR EXCHANGE RATE AND DOMESTIC MACROECONOMIC POLICIES?

ANSWER:

I am not interested in establishing a "tough new federal policy on foreign takeovers of U.S. firms." I do think it important to establish criteria by which the government, through the existing Committee on Foreign Investment in the United States ("CFIUS"), can evaluate a proposed acquisition from the standpoint of its impact on our national security. We don't have those criteria now; Fairchild-Fujitsu pointed out the need.

However valid our security and related interests may be, however, we must keep in mind that increased regulation of investment, even for valid reasons, may scare off potential investors. A recent proposal by Senator Exon, for example, would require investigation of a broad range of potential investments, and would send a signal to investors that political concerns may enter into the question of whether they will be able to invest in the United States. We certainly ought not to be sending such a signal when we are working hard to remove barriers to investment in other countries.

An example of regulation of foreign investment that might cause established investors to pull out is the type proposed by Senator Chiles that would limit foreign acquisition of financial institutions and Senator Levin that would impose intrusive new information requirements. I am strongly opposed to this proposal.

Finally, we don't need to "balance (or coordinate) our foreign investment policy with our exchange rate and domestic macroeconomic policies." We do need to coordinate our foreign investment policy with our national security priorities, and where the two conflict, be ready to act promptly and effectively.

QUESTION:

IF ONE GOES THROUGH YOUR TESTIMONY, ONE CAN SEE IT AS A KIND OF "SHOPPING LIST" OF POLICY ACTIONS. I WONDER HOW ALL THESE REFORMS WILL BE COORDINATED TO MAKE SURE THEY ARE CONSISTENT WITH ONE ANOTHER -- BOTH IN THE NATURE OF WHAT EACH STRIVES TO ACHIEVE AS WELL AS IN THEIR TIMING AND ORDERING OF IMPORTANCE. WHO WILL ACTUALLY BE RESPONSIBLE FOR COORDINATING THIS POLICY PACKAGE IF IT WERE TO BE APPROVED?

ANSWER:

Each element of the President's package is appropriate to renew and retain our national competitiveness. Each is important, and we would like to see them all implemented as soon as possible. The President's Domestic Policy Council and Economic Policy Council have served very effectively as policy-coordinating vehicles for this Administration. I don't believe any extraordinary additional coordinating mechanisms are called for.

QUESTION:

UNDER THE MARSHALL PLAN IN THE AFTERMATH OF WORLD WAR II OUR GOVERNMENT ENCOURAGED U.S. COMPANIES TO SHARE THEIR TECHNOLOGIES TO HELP REBUILD EUROPE AND JAPAN. CLEARLY, THAT SET IN MOTION A PROCESS WITH A POWERFUL INERTIA THAT WE ARE FEELING THE ADVERSE EFFECTS OF TODAY. SOME HAVE ARGUED, THEREFORE, SINCE THE GOVERNMENT INITIATED THE PROCESS, IT HAS A RESPONSIBILITY TO HELP SHOULDER THE BURDEN IN THE ADJUSTMENTS THAT ARE NEEDED TODAY TO HELP MAKE AMERICA COMPETITIVE AGAIN. IS THERE VALIDITY IN THIS ARGUMENT? WHAT INSTITUTIONAL VEHICLE DOES THE ADMINISTRATION PLAN TO USE TO ENSURE THAT THERE IS A "PROPER" BALANCE OF FAIRNESS AMONG GOVERNMENT, BUSINESS AND LABOR IN THE SETTING OF COMPETITIVENESS AND TRADE POLICY?

ANSWER:

I do not believe so. Our current competitive problems cannot be traced to the Marshall Plan.

The appropriate role of Government is to provide a stable economic environment so that industry can make business decisions with some degree of certainty. In addition, we can help ease the burdens of adjustment by assisting in the education, retraining and relocation of workers affected by the structural economic changes that we are seeing in some of our industries. The President has proposed a $980 million program to do just that.

The only "institutional vehicle" I know of that can make good, reliable decisions regarding allocation of capital in our economy is the marketplace. The government should not be involved in picking winners and losers. It's not an appropriate role.

QUESTION:

WHAT ARE THE MAIN REASONS, IN YOUR VIEW, OF THE FAILURE OF OUR GOVERNMENT AND OUR COMPANIES TO OBTAIN DATA FROM ABROAD THAT WOULD HELP OUR COMPETITIVE POSTURE?

ANSWER:

We do not believe that there is a data-access failure. The government has wide-ranging cooperative agreements around the world that are working. Numerous private-sector organizations have extensive agreements with their foreign counterparts and are getting the technical information that they want in their various spheres.

NTIS is constantly reviewing ways in which to improve public awareness of the wide range of available products and to make these products more accessible. In addition, we are implementing the Japanese Technical Literature Act. On June 8, 1987, we opened the Japanese Technical Literature Office, intended to make Japanese technical literature and other innovations more readily accessible.

Executive Order 12591, signed by the President on April 10, 1987, directed the Departments of State and Commerce and the National Science Foundation jointly to develop a program to collect and make available foreign scientific and technical literature. We are actively implementing the Executive Order.

QUESTION:

ARE THERE ORGANIZATIONS SIMILAR TO OUR NTIS THAT WE AREN'T TAKING ADVANTAGE OF?

ANSWER:

None of which I am aware among the industrialized nations. NTIS maintains working relationships with many such organizations in other countries.

QUESTION:

DO WE NEED TO WORRY ABOUT A "LEVEL PLAYING FIELD" ON INFORMATION SHARING? E.G., SHOULD WE ALLOW FOREIGN FIRMS OR COUNTRIES TO SUBSCRIBE TO NTIS IF SIMILAR INFORMATION ON THEIR SIDE IS NOT AVAILABLE TO OUR FIRMS OR GOVERNMENT?

ANSWER:

There is a level playing field now. If we become overzealous about information-sharing, we could find ourselves cut off from valuable information to which we now have access. As a general rule, I favor an open flow of scientific technical information. It is dangerous to shut off the flow. This view is shared by our technical societies.

The only access barrier to nonproprietary and nonclassified information that I know of is the language barrier.

RESPONSES OF SECRETARY BALDRIGE TO WRITTEN QUESTIONS
SUBMITTED BY SENATOR BINGAMAN

QUESTION:

S. 374 PROPOSES RE-CREATING THE OFFICE OF TECHNOLOGY ASSESSMENT AND FORECASTING IN THE PATENT OFFICE AND ADDING SCIENTIFIC MONITORING CAPABILITIES TO OUR EMBASSIES. DO YOU SUPPORT THESE PROPOSALS?

ANSWER:

A similar office within the Patent and Trademark Office was discontinued because PTO determined that its resources were more effectively employed in other ways. We would oppose legislative reestablishment of this Office. PTO needs the flexibility to deploy its resources where they are most needed; in an era of scarce budgetary resources, we think other efforts are more cost-effective and critical to PTO's central mission.

For similar reasons, we are opposed to a legislative requirement that Offices of Technology Assessment be established in certain embassies to maintain scientific monitoring capabilities. The Secretary of State, through scientific officers and other personnel in a number of embassies, presently manages these functions, and can allocate resources on an embassy-by-embassy basis as needs require. But the exclusive dedication of resources necessary to accomplish this would not be cost-effective, even in the most technologically advanced nations, and the U.S. & Foreign Commercial Service, through which this requirement would be implemented, does not have the resources available in any event.

QUESTION:

WHAT IS THE ROLE OF THE COMMERCE DEPARTMENT IN SUPPORTING THE USTR, ESPECIALLY THE NEW MULTILATERAL TRADE NEGOTIATIONS?

ANSWER:

Reorganization Plan No. 3 of 1979 established the Department as the focal point of operational responsibilities in the nonagricultural trade area, and significantly upgraded its statistical and sectoral analysis capabilities. It also gave Commerce exclusive responsibility for implementation of the countervailing duty and antidumping laws.

Commerce directly supports USTR in bilateral and multilateral negotiations. For example, we have done much of the groundwork in preparing for the U.S.-Canada Free Trade Area negotiations and we are building inventories of tariff and non-tariff trade barriers and barriers to investment in goods and services. In many cases we are preparing issue papers on Uruguay Round negotiating topics for interagency consideration and use by our negotiators. We also serve as the primary contact point for U.S. industry in all of these areas.

On a less formal basis, ITA country desk officers and industry sectoral analysts dealing with trade policy issues are in constant contact with their corresponding USTR policy coordinators. The same is true for our multilateral affairs staff, who work closely with USTR to coordinate Commerce involvement in the Uruguay Round negotiations. We also jointly administer the Industry Consultations program, soliciting industry recommendations on every aspect of U.S. trade policy.

QUESTION:

THE FOREIGN COMMERCIAL SERVICE WAS TRANSFERRED FROM THE STATE DEPARTMENT TO THE COMMERCE DEPARTMENT. YET, THERE ARE NOT ENOUGH FCS OFFICERS TO STAFF EVERY EMBASSY. IN 77 COUNTRIES, THIS WORK IS CARRIED OUT BY THE EMBASSY'S ECONOMIC OFFICERS AND THE STATE DEPARTMENT OFFICE OF BUSINESS AND EXPORT AFFAIRS. HOW ARE THESE ACTIVITIES COORDINATED? DO WE NEED TO INCREASE THE SIZE OF THE FCS TO COVER ALL NATIONS?

ANSWER:

The US&FCS was established by Congress in response to demands from the American business community for additional support overseas. That support is currently provided by FCS officers in 66 countries representing all of our major trading partners. FCS officers have not been assigned to posts in developing or non-market economies where U.S. economic activity is small scale or non-existent.

In those 77 countries where FCS does not provide support, the American business community relies on economic officers. In an effort to coordinate our world-wide response to the American exporter, we include the economic officers in informational mailings and program announcements. We have arranged special briefings and training sessions for economic officers who attend our regional senior commercial officers' conferences. We have endeavored to maintain close contact with appropriate State Department officers in Washington so that their directions to the field are consistent with our own.

An increase in size of the US&FCS is not justified at this time.

QUESTION:

THE EXAMPLE OF THE LACK OF FCS OFFICERS FOR EACH NATIONS POINTS OUT THE LIMITATIONS OF COMMERCE DEPARTMENT'S RESOURCES. THE PRESIDENT'S PACKAGE CALLS FOR THE CREATION OF AN EXPORT PROMOTION DATA BANK, AN ACTIVITY WE UNDERSTAND IS ALREADY UNDERWAY. GIVEN THIS LIMITATION OF RESOURCES, IT SEEMS LIKELY THAT ANY DATA BANK LIMITED TO ONLY THE COMMERCE DEPARTMENT WOULD BE INCOMPLETE. HOW IS INFORMATION FROM NON-COMMERCE AND NON-FCS SOURCES INCORPORATED INTO THE CURRENT EXPORT PROMOTION DATA BANK? AND HOW IS THAT DATA BANK COORDINATED WITH OTHER DATA BANKS AND DATA SOURCES THROUGHOUT THE FEDERAL GOVERNMENT?

ANSWER:

The Export Promotion Data System (EPDS) proposed by the Administration builds primarily upon the Commercial Information Management System (CIMS) which the Department has been developing for some time. EPDS can be accomplished within available resources. It is user-oriented and is intended to be accessible at any of the US&FCS offices in the United States, by ITA personnel in Washington, and at US&FCS offices abroad. The information is also intended to be practical to U.S. businesspeople interested in marketing their products and services overseas. Examples of this information are: specific market research, listings of potential agents and distributors for a particular product group, specific sales leads, and appropriate upcoming trade events. EPDS would also incorporate much of the information now collected by the Department's Bureau of the Census.

In addition, information from non-Commerce sources will be available to the District Offices and appropriate Commerce personnel (as well as other agencies) through connection to the National Institutes of Health statistically oriented computer system. This information is used primarily by ITA/Trade Development and ITA/International Economic Policy for policy analysis.

The President's proposal also calls for the Department to undertake a study to determine what other data resources for exporters are available in the federal and state governments and in private-sector organizations, and assess the adequacy of these data resources for export-promotion purposes. This study will also determine whether the data available through EPDS is properly coordinated with other agencies within the federal government, and evaluate the need for improvements in the system.

QUESTION:

SOME HAVE CALLED FOR A CABINET COUNCIL TO MAKE AND COORDINATE POLICY IN THE FEDERAL GOVERNMENT. THERE IS CURRENTLY AN ECONOMIC POLICY COUNCIL IN THE CABINET FOR THIS PURPOSE. HOWEVER, GIVEN THE BROAD AGENDA OF THE EPC, MANY OF US ARE WORRIED THAT TRADE AND COMPETITIVENESS ARE OVERWHELMED BY OTHER ISSUES. BECAUSE OF THIS PROBLEM, S. 489 PROPOSES A RECONSTITUTION OF THE CURRENT TRADE POLICY COUNCIL, CHAIRED BY THE USTR, INTO A NATIONAL TRADE COUNCIL, CHAIRED BY THE PRESIDENT. WE WOULD LIKE TO HEAR YOUR COMMENTS ON THE PROBLEMS OF THE EPC AND THE PROPOSAL FOR A NATIONAL TRADE COUNCIL. SHOULD WE CREATE A NATIONAL TRADE COUNCIL, OR DO WE NEED TO PROVIDE A STATUTORY BASIS AND STAFF FOR THE EPC, SIMILAR TO THE NATIONAL SECURITY COUNCIL?

ANSWER:

The issue really is whether the President ought to be able to organize his Executive Office the way he sees fit. Any statutorily created body takes away from this ability. From this standpoint, there is no difference between the two panels.

We ought not to legislate who the President will listen to and in what forum. In my view, it would be counterproductive to try.

QUESTION:

WHAT IS THE COMMERCE DEPARTMENT DOING TO MONITOR FOREIGN TECHNOLOGIES?

ANSWER:

NTIS has bilateral agreements covering foreign technologies with government and/or private sector organizations in the important industrialized countries in Western Europe and in Japan. These organizations market NTIS information. Reciprocally, they acquire technical information from their own countries for NTIS.

In addition several federal agencies, such as DOD, DOE, NASA and the CIA, share with NTIS unclassified technical information from all over the world.

QUESTION:

THE COMMITTEE HAS A NUMBER OF PROPOSALS BEFORE IT CONCERNING POLICYMAKING, SPECIFICALLY IN S. 374 AND S. 489. THESE BILLS WOULD LEGISLATE THE CREATION OF AN ADVISORY COUNCIL ON INDUSTRIAL COMPETITIVENESS AND THE MANDATING OF COMPETITIVENESS IMPACT STATEMENTS. THESE PROPOSALS ARE ATTEMPTS TO PROVIDE FOCAL POINTS FOR COMPETITIVENESS POLICYMAKING BOTH IN AND OUT OF GOVERNMENT. WHAT ARE YOUR VIEWS ON THESE PROPOSALS?

ANSWER:

I am opposed to the creation of a Council on Industrial Competitiveness. Although in its present form it would be an advisory body and have no executive functions, I believe the President gets more than adequate advice from his Cabinet, other existing advisory committees, the Congress and members of the public. We don't need another advisory Committee.

I am also opposed to the requirement that competitiveness impact statements be prepared in conjunction with most actions by the Executive branch. The process leading up to every proposal for official action should include consideration of the impact of that action on our ability to compete. I do not believe that establishing a new paperwork requirement will improve the process or strengthen our awareness of the "competitiveness factor." That awareness must be there from the outset.

ORGANIZING FOR COMPETITIVENESS; THE STRUCTURE OF AMERICAN TRADE POLICY

Statement by

C. Fred Bergsten
Director, Institute for International Economics

Committee on Governmental Affairs
United States Senate

March 26, 1987

Can America Compete?

The central issue in the current trade debate is whether the United States faces a fundamental problem of underlying competitiveness. Virtually all policy conclusions, including those facing this Committee concerning the organization of governmental policymaking, derive from one's answer to this question. My own view is that the underlying competitive position of the United States is basically healthy, but that trade issues have become so critical to the nation that two or three important changes are nevertheless needed in the structures through which we manage international economic policy.

It is first essential to understand that our trade problem is much greater than is realized even by most experts on the topic. In 1986, our deficit hit almost $150 billion (on the analytically most valid balance-of-payments definition). By the end of the decade, the United States will be a net debtor country of at least $500 billion and thus will be paying at least $25 billion annually in interest to the rest of the world. Our oil import bill is virtually certain to rise again over the next few years, due both to the sharp recent declines in domestic production and the possibility (some say strong probability) of renewed price rises.

Hence the United States must achieve an improvement of something like $200 billion (4-5 percent of GNP) in our annual trade balance, mainly in manufactured products, even to restore a rough balance in our current account and stop the export of jobs and buildup of foreign debt. It would take an even bigger adjustment to restore the surplus position which has been traditional, and many would say is still appropriate, for the United States. In essence, our economy must achieve export-led growth for the next four or five years.

As to America's competitiveness, there are three basic theories as to why we have moved into such a sizable trade deficit. The first centers on foreign trade barriers and the absence of a "level playing field." To be sure, there are numerous barriers abroad which limit US exports and every effort must be made to break them down. However, it is doubtful that foreign trade barriers account for more than 10 percent of our trade deficit. A careful study at my Institute of Japan's import restrictions, informal as well as formal, concluded that they were limiting our exports by $5-10 billion annually--a considerable sum, but only a small fraction of our bilateral deficit with Japan of $50-60 billion.[1]

[1] C. Fred Bergsten and William R. Cline, The United States-Japan Economic Problem, Washington: Institute for International Economics, revised January 1987.

Moreover, that same study showed that our own trade barriers (in autos, machine tools, steel, textiles and the like) were restricting Japanese sales to us by $4-5 billion per year. US export controls, particularly on Alaskan oil, were also hurting our bilateral balance with Japan by $2-5 billion annually. So a reciprocal move to completely free trade, in which the United States as well as other countries eliminated their trade barriers, would have even less impact--perhaps a negligible impact--in correcting our trade imbalance.

The second theory is that there are severe shortcomings in the underlying competitive position of American firms and workers. Again, we should do everything we can to assure excellence of our education system, maximum devotion of resources to productive research and development activities, effective programs of worker training, and avoidance of export disincentives--subordinating nontrade objectives to the export imperatives which the country faces if we are to limit the horrendous buildup of our net foreign debt, let alone begin to reverse that trend.

But it would be difficult to conclude, from a review of the relevant history and facts, that the nation faces a basic problem of underlying international noncompetitiveness. In 1978-80, the period just before the soaring value of the dollar priced American goods out of world markets, the trade position of the United States was extremely strong. Our exports grew twice as fast as world trade. We regained market share in every component of manufactured trade and every geographical market, in some cases back to the level of the 1960s. Our current account balance improved by over $50 billion in just two years, excluding the direct adverse effect of the second oil shock. Even with the sharp rise in oil prices, our current account moved into surplus in 1980-81. Indeed, the improvement in our trade balance in real terms accounted for the total growth of the American economy in 1979-80--suggesting that export-led growth _is_ possible for the United States.

No one can be sure, of course, that the _status quo ante_ can be restored. Five years is a long time, and the huge disequilibrium in exchange rates of the early 1980s could have masked a deterioration in our basic competitive position. Moreover, we know that there have been changes in the world economy which are adverse to our international position such as the onset of excess supply in many agricultural products and the further competitive rise of several key developing countries (especially in East Asia). On the other hand, productivity in our manufacturing sector has risen by almost 4 percent annually for the last five years--a sharp pickup for the United States, and quite good even by international standards. The recent historical record simply makes it hard to believe that the United States faces fundamental problems of underlying noncompetitiveness.

This leaves the third explanation for our trade deficit and competitive problem, which I basically endorse: macroeconomic developments, particularly the enormous overvaluation of the dollar in the exchange markets which in turn was caused largely by faulty economic policies here (notably the huge budget deficit and resulting high real interest rates) and inconsistent policies among the major countries (with the largest surplus countries sharply reducing their budget deficits just as we were sharply increasing ours). A careful analysis at my Institute, subsequently corroborated by numerous studies elsewhere, suggests that about 75 percent of the rise in our trade deficit can be attributed to these factors.[2] The other 25 percent can also be ascribed to macroeconomic changes: the speedup in our economic growth compared with that of the major countries abroad in 1983-84 (which raised our import level considerably), and the onset of the debt crisis in the Third World (which pared their imports from everywhere).

America's main competitive problem is that we priced ourselves out of world markets for almost five years. The dollar rose by 60-100 percent from 1980 to early 1985, depending on the precise index and base period used. A company which let its prices rise that much in such a short period against tough competitors would be in or near Chapter XI, but that is what happened to the United States as a country. The dollar was overvalued by at least 40-50 percent at its peak, in early 1985, which meant we were taxing our exports by that amount and similarly subsidizing imports. Since extensive economic analysis shows that every loss of 1 percent in our price competitiveness costs the trade balance about $3 billion, it should be no surprise that our deficit soared.

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[2] Stephen Marris, Deficits and the Dollar: The World Economy at Risk, Washington: Institute for International Economics, December 1985.

Nor should there be any surprise that the deficit "has not yet declined" in the face of a substantial correction (35-40 percent) in the value of the dollar over the past two years. In fact, the deficit has declined: it was considerably lower in 1986 than it would have been in the absence of the currency correction, and the deficit in real terms fell at an annual rate of $15 billion in the fourth quarter of 1986--accounting, in fact, for more than the total (meager) growth of GNP in that period and thus perhaps commencing our era of export-led growth.

More importantly, however, we should never have expected declines in the trade deficit in nominal terms until at least the first half of 1987. Currency changes always take at least 12-18 months to translate into trade balance changes because of three lags: from exchange-rate change to price change, from price change to change in demand and production patterns, and from the latter to actual shipments and recording in the trade data. On this occasion, the first of those lags might be even longer than normal because the dollar's overvaluation was so great that foreign exporters were able to build huge profit margins and did not have to raise prices until the dollar had fallen a good deal.

Moreover, the bulk of the economic adjustment to the falling dollar probably did not begin until after the Plaza Agreement of September 1985 was seen to be successfully bringing the dollar down by a large amount and to stay. Even though the dollar peaked about a year earlier, I would date the adjustment from the very end of 1985 or start of 1986 so have never expected a fall in the nominal numbers until the first half of this year.

I believe that the currency changes to date will produce a reduction of $30-40 billion in the trade deficit both in 1987 and in 1988, which will obviously be most welcome. However, even these gains would leave us with a deficit uncomfortably close to $100 billion, with a continuing export of jobs and runup of foreign debt. There would be ongoing risks of a precipitate decline of the dollar if we have to go on borrowing almost $100 billion annually from the rest of the world, and of more protectionist measures--even leading to a major disruption of the entire trading system--as the deficit remains at unacceptable levels. Hence we need considerably further adjustment through a combination of sharp cuts in our own budget deficit, much more rapid growth of domestic demand in the major countries abroad (notably Japan and Germany, taking Western Europe with it), and further exchange rate changes against both the major currencies (notably the yen and DM) and those of a few key developing countries (notably Taiwan and, to a lesser extent, Korea).

What Organizational Changes Are Needed?

This need for extensive further macroeconomic and currency changes, along with the faulty macroeconomic policies which created most of our trade problem in the first place, highlights the key organizational proposal which I make to the Committee: creation of a new structure which would force, as much as is possible through institutional means, a much closer coordination among our trade, exchange rate and macroeconomic policies.

There is no way in which Congress can force an Administration to relate these key policy areas effectively. Nevertheless, it should try. Trade considerations simply must be factored into international monetary and macroeconomic policy on an ongoing basis. The Council on International Trade, Economic and Financial Policy included as Sec. 266 of S. 330 pursues this objective, and should be included in any trade legislation passed by the 100th Congress. (The National Trade Council proposed in S. 489, by contrast, does not incorporate international monetary issues and thus would not meet the chief requirement for organizational reform.)

On a second key organizational point, I agree with the objectives of S. 330 but not with its proposed remedy and would recommend a change which, to my knowledge, has not yet been embodied in legislative form. This issue is the need to eliminate the bifurcation of trade policy leadership between the United States Trade Representative and the Department of Commerce which, while muted in importance now because of the development of effective working relationships between the two, is nevertheless a structural weakness and confusing element in managing a coherent US trade policy.

I disagree with the proposal of S. 330 (and S. 259) to create a Department of Trade, however, because I believe that no Cabinet department can effectively coordinate an issue-area which inherently includes so many different agencies. It is both natural and proper that the Departments of Agriculture, Labor, State and Treasury, along with the Chairman of the Council of Economic Advisers and of course the United States Trade Representative, will have a major voice on many trade issues. No peer will be able to coordinate those agencies or dictate policy to them. In essence, trade is too important to be left to a single Cabinet department.

My recommendation is for Congress to build on its own initiative, launched in 1962 and strengthened in 1974 and 1979, to create the United States Trade Representative by now making him the clear czar of trade policy. Instead of subsuming USTR under Commerce (in the guise of a new DITI), as in S. 330, I would reverse the process by bringing all trade policy functions of the Commerce Department under USTR. It would obviously cause problems to place the roughly 3,000 personnel involved in the Executive Office of the President (EOP), so you should create a new United States Trade Administration outside the EOP which would report to the USTR and carry out the day-to-day trade policy functions now split between the two agencies. The Office of the USTR would be a small, elite Presidential unit responsible for leading international negotiations, directing the interagency trade process, and working with Congressional leaders.[3]

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3. The details are developed in I. M. Destler, American Trade Politics: System Under Stress, Washington: Institute for International Economics and New York: Twentieth Century Fund, November 1986, especially Chapter 10.

A possible third organizational change is to create a new body which would attempt to achieve some order in the "industrial policies" which the United States will inevitably pursue from time to time, or assign that function to an existing agency. I share the general skepticism toward any comprehensive industrial policy which emerged from the national debate on that topic in 1983. However, we clearly could and should do several things better:

-- develop "visions" of the future of the American economy and its key industries, as a benchmark against which to judge the desirable course of events and policy proposals for affecting their evolution;

-- assure consistency among the different policy approaches adopted toward individual industries, which are now often totally uncoordinated and handled in an ad hoc manner, and extract meaningful adjustment commitments from industries which receive such help from the Government; and

-- closely monitor the outlook for key industries abroad and how their development is likely to affect our own, so that we can be in a position to take needed counteractions in a timely manner (as opposed to the reactive and belated nature of most US approaches under current institutional arrangements).

There are at least three ways to pursue these goals. One is to create a new independent agency as proposed in S. 374 (and voted again last week by the House Banking Committee). Another is a temporary commission, as per S. 690 (but with a much longer lifespan than its proposed six months and a more clearly defined mandate). A third is to assign these tasks to an existing governmental department or agency, presumably the Department of Commerce under current arrangements or the expanded USTR recommended above if it were to be created for broader reasons.

Conclusion

I therefore recommend three basic changes in the organizational structure of the United States Government to handle trade problems better:

-- most importantly, creation of a Council on International Trade, Economic and Financial Policy to promote the integration of trade policy with its crucial underpinnings, international monetary policy and overall macroeconomic policy;

-- a merger of the trade functions of the Department of Commerce into a strengthened USTR and a new United States Trade Administration, reporting to it, to eliminate the present bifurcated direction of trade policy (narrowly defined); and

-- a new mechanism, within an existing body or a newly created one, to take modest steps toward a more orderly, consistent and effective "industrial policy" for the United States.

These three changes could promote a more active and effective trade policy for the United States in the future. The first, in particular, could help promote completion of the correction of the massive trade imbalance which we will continue to experience even after the adjustment measures to date have taken full effect, and the avoidance of such imbalances in the future. I hope that the Committee will include them in the omnibus trade legislation to be addressed by the 100th Congress.

Statement

of

Pat Choate
Director of Policy Analysis
TRW Inc.

Before
Committee on Governmental Affairs

United States Senate
One-Hundredth Congress
Washington, D.C.

March 26, 1987

Mr. Chairman and Members of the Committee:

I am pleased to have this opportunity to share some thoughts with you on organizing government policymaking to meet the nation's competitiveness challenge. And in fairness to you and my employer, TRW Inc., I note that these views are my own.

Three Eras

U.S. involvement in the global economy can be divided into three distinct periods -- the development era, the free trade era, and the age of interdependence.

The Development Era - The development era began in the Administration of President George Washington and lasted until the early 20th century. The objective and implementing policies of that era were set out in 1791 by former Secretary of the Treasury Alexander Hamilton in his Report on Manufactures. The basic goal of U.S. global policy in this period was industrial self-sufficiency, which Secretary Hamilton believed could be "stimulated by prudent aids and encouragements on the part of government." Among the principal means used to achieve that objective during this century-long era were high tariffs to protect infant U.S. industries, as well as government support for key industries such as subsidies for the nation's developing transport system and maintenance of liberal immigration policies.

By the end of the 19th century, the United States had attained its goal of industrial self-sufficiency. Indeed, by the first decade of the 20th century, U.S. industries such as textiles, apparel, and steel were well beyond the development stage. However, these industries were unwilling to relinquish the tariff protection they enjoyed. Reducing high U.S. tariffs was a politically risky challenge because tariffs were the principal source of federal revenues. Indeed, in 1910, the tariff still provided roughly half of all federal revenues. Before the nation could reduce tariffs and expand trade, therefore, it had to either reduce federal spending or create a new source of income. In 1913, a new source of federal revenue -- the federal income tax -- was authorized, and federal financial dependence on tariffs was reduced.

The Free Trade Era -- The United States emerged from World War I as the predominant nation in global trade. The war had created an unprecedented demand for U.S. goods, services and capital. Except for the harsh economic circumstances created by the Smoot-Hawley Tariff Act of 1930, Americans were to enjoy the benefits of free trade for more than half a century.

After World War II, the United States had a virtual economic monopoly in a world desparate for goods, food and capital. For American workers, unions and businesses, open trade promised enormous opportunity with little risk from foreign competition. At the same time, rebuilding the economies of allies, former enemies, and developing nations offered an attractive way of forestalling Soviet expansion while developing new markets for U.S. goods.

Between the end of World War II and the early 1970s, open trade was a powerful engine of economic growth. It helped create vast new markets for the industries of all nations, increased global productivity, expanded employment, and stimulated beneficial competition. It fueled a tripling of the world's annual output of goods and services between 1950 and 1973. The benefits from that trade extended throughout the world to developed and developing nations alike. Clearly, America's free trade policies were an enormous success.

The Era of Interdependence -- As trade expanded, the United States shifted from relative economic isolation to global interdependence. Specifically, the portion of the U.S. Gross National Product (GNP) derived from trade rose from 10 percent in the early 1960s to more than 20 percent today.

Indeed, the United States has become the biggest international trader by far. American farmers sell 30 percent of their grain production overseas. American industry exports more than 20 percent of its manufacturing output, and the job of one of every six manufacturing workers depends on foreign sales.

At the same time, a fifth of all goods sold in the United States come from abroad. American consumers buy 36 percent of Japan's exports and 33 percent of Latin America's. They also purchase 60 percent of the manufactures that Singapore, Hong Kong, South Korea, and Taiwan export to the industrialized countries.

With economic interdependence, however, has come vulnerability. Any significant reduction in U.S. trade, therefore, would create havoc in the American economy. It would also pitch the nation's trading partners into economic, political and foreign-policy upheavals.

New Realities of an Age of Interdependence

Even as the American economy has become more deeply involved in the global economy, the very nature of trade has changed radically. Financial flows and trade in services and high technology, for instance, have become increasingly important. Exchange rates are no longer fixed. The world financial system has been internationalized. As trade competition has escalated, developed and developing nations alike are choking off foreign imports, including those of the United States, to help domestic industries. The nations of the Pacific Basin have replaced those of Western Europe as America's most important trading partners. Many of the less-developed nations have become effective competitors.

Much of the world's trade is "managed" -- that is, controlled by governments. In most nations, particularly developing nations such as Taiwan and Korea, governments plan and subsidize export production while sharply curtailing exports.

An estimated 20 to 30 percent of all global trade is in the form of barter (countertrade), as nations without hard currency exchange local products and raw materials for needed merchandise and services. Many developing nations have achieved agricultural self-sufficiency. A huge and mounting burden of debt is retarding the progress of many underdeveloped nations.

Equally important, the nature of global competition has changed. Highly skilled engineers, managers and financiers are now found throughout the world. America's technological supremacy has eroded in one arena after another. More than 70 percent of U.S. industries now face stiff competition in U.S. markets, up sharply from 25 percent in the early 1960s.

Despite the scope and importance of these global economic changes, U.S. trade policies remain trapped in a time warp of the free trade era, out of touch with the vastly different economic realities of the current era of interdependence. Government policies are still dedicated to advancing a 1940s-style Anglo-American process-oriented approach to global trade and to depending on multilateral agreements as the principal means of trade negotiations. Yet today, 75 percent of world trade is conducted by four economic systems that are very different from that of the United States -- the command economies such as the Soviet Union's; the mixed economies such France's; the developing economies such as Brazil's; and results-oriented, plan-directed market economies such as those in Japan, Korea, Taiwan and Singapore. The principal international treaty on trade, the GATT, now covers less than 7 percent of world imports, exports and capital flows. Moreover, any change in GATT is unlikely before 1992, if then.

U.S. domestic policies are equally deficient. They have failed to address a broad range of obstacles that sharply diminish U.S. competitiveness: The relentless pressures on American companies for quick results and short-term earnings. Inadequate child care services for working parents. The absence of portable, personal pensions. Limited worker adjustment assistance. Widespread functional illiteracy among American workers.

Because of the nation's inability, and unwillingness, to adapt to the demands of this age of global economic interdependence, American firms and workers have lost business and jobs in industries where they were long considered invulnerable: advanced computers, semiconductors, aircraft, machine tools, pharmaceuticals, automobiles, insurance, finance, engineering services, turbines, and many others.

In short, the easy global superiority enjoyed by American companies and workers during the free trade era no longer exists. In the future, competitiveness must be a primary consideration in government and business decisions.

A Fragmented, Ad Hoc Response

The challenges created by the nation's shift from economic independence to interdependence have not gone unnoticed. Since 1983, there have been dozens of studies on long-term U.S. competitiveness. I have compared 17 such studies prepared by leaders from virtually all of the leading U.S. companies (large and small), unions, academe, public policy institutes and foundations, along with hundreds of knowledgeable citizens.

One these studies shared was an urgent call for improved coherence in government decision-making. What these leaders recognized is that the decisions of American government have an enormous influence on the economy. Indeed, a recent Harvard Business Review article estimates that half of all actions taken by business are in direct response to the decisions of government.

At the federal level, these decisions can come from many sources -- the almost 300 Committees and Subcommittees of Congress, 8 major offices within the Executive Office of the President, 13 departments, 55 independent agencies and government corporations, and hundreds of individual programs.

Most major decisions, of course, require action by both the executive and legislative branches. Securing agreement in the current environment of fractured accountability is difficult. Modifications in federal pension policies, for instance, involve 10 cabinet departments, 25 operating groups within these departments, and 119 Congressional Committees and Subcommittees. Shifts in economic policies can involve 33 separate agencies and departments outside the White House. Decisions about U.S. trade policies are split among the United States Trade Representative, the Office of Management and Budget, the Council of Economic Advisers, the Secretary of Commerce, the Secretary of State, the Secretary of the Treasury, at least 23 other departments and agencies in the Executive Branch, and 19 Committees and Subcommittees of the Congress.

Unfortunately, the techniques of public administration have failed to keep pace with this reality. The resulting gridlock, duplication, delays, omissions and unintended consequences are slowing decision-making and sharply reducing the federal government's capacity to address issues that are critical to the nation's ability to compete in the world marketplace.

Two Complementary Reforms

Two principal sets of recommendations -- one structural, the other procedural -- emerged from the 17 studies I analyzed. One popular structural recommendation was the need for some reorganization within the federal government, including the creation of a Department of Industry and Trade.

As desirable as such a course may be, it is also a difficult path. Since 1948 there have been 29 major, but unsuccessful, attempts to restructure and consolidate federal economic policymaking in the Executive branch. None has succeeded.

Fortunately, until government adopts a more streamlined structure, other actions can effect more flexible, coordinated, and speedy decision-making. President Reagan, for example, has imaginatively broken several political gridlocks by appointing bipartisan commissions that worked outside the formal structure of government to devise proposals which were then brought to the President and the Congress for consideration. He has also used cabinet councils to streamline and coordinate decision-making.

Although the commission and cabinet council approaches have advantages, they also have flaws. Commissions often take months or years to reach a decision; and the agency heads who comprise cabinet councils are notorious for their refusal to defer to peers, even one appointed by the President as chairman of a council. If flexible, timely, and focused decision-making is to become a regular feature of government, then other techniques, structures and processes are needed.

Several of the major studies on U.S. competitiveness have offered specific procedural recommendations on what is required.

The Business-Higher Education Forum, an organization of leading college presidents and business CEOs, has called for the creation of a Presidential Adviser on Economic Competitiveness. The task of this adviser would be to "help the President and other policy-makers focus on the diverse concerns -- such as trade and investment, regulatory reform, technological innovation, and the development of human resources -- basic to an effective competition effort."

The President's Commission on Industrial Competitiveness (the Young Commission) noted that "government decisionmaking can be strengthened significantly by providing a forum in which consensus can be reached on the facts of an issue and in which the implicit tradeoffs among policy options can be made explicit. In addition, the President would be well served by the creation of a small staff in the Executive Office of the President to study and advise him on competitiveness."

The Center for National Policy, in a study led by Felix Rohatyn, Lane Kirkland and Irving S. Shapiro, reported that a missing ingredient in America's competitive efforts is "an effective process for making policy decisions." They called for "an Industrial Development Board, composed of government, labor and business leaders, to advise the President and develop cooperative strategies to promote industrial growth . . . and help insure that government efforts do not work at cross-purposes with private efforts."

The Committee on the Next Agenda -- a committee convened by the

Administration and composed of leaders from the Brookings Institution, the Heritage Foundation, the Hoover Institution, the Hudson Institute, the American Enterprise Institute, the Institute for Research on the Economics of Taxation -- informed the President that "there is an overriding need for a clearly developed and articulated comprehensive foreign economic and trade policy....The current fragmented system needs to be rationalized or replaced by mechanisms that promote the formulation of coherent, long-term and thoughtful approaches to foreign economic and trade issues."

The Committee on the Next Agenda also noted a parallel that I think interesting: namely, that the nation has long considered ad hoc approaches to national defense issues totally unacceptable. Accordingly, since the late 1940s, a succession of Presidents have had National Security Advisors whose role is to coordinate the many diverse actions of agencies that affect our long-term strategic well-being, such as the Departments of Defense and State and the Central Intelligence Agency, among others.

Noting this parallel, the Committee recommended that "a broker is needed within the Executive Office of the President to reconcile overlapping defense, foreign, economic, and trade areas. The broker role would play an important coordination function in the government, not a planning function. It should provide for the institutionalization of an economic policy apparatus that integrates domestic and international considerations, eliminates redundancies, and has sufficient authority to do the job."

The message that is being sent to the Congress and the President by distinguished leaders from business, government, unions and academe is that government must give much more attention to the management of its affairs and how those affairs affect the competitiveness of the American economy.

The most direct way to ensure more coherent decision-making would be to establish a National Competitiveness Adviser to the President. The model for such a position is the National Security Adviser, who serves as a neutral broker to reconcile the diverse security objectives pursued by the Central Intelligence Agency, the National Security Council, and the Departments of State and Defense. In like manner, a National Competitiveness Adviser would be an honest broker to help bring focus to the diverse concerns -- fiscal policy, regulatory and tax reform, foreign affairs, human resource development, and technological innovation, among others -- that affect America's global competitiveness.

The position would have a much broader mandate than the United States Trade Representative, whose authority is limited to negotiating trade matters, or the chairman of the Council of Economic Advisers, whose principal concern is fiscal policy and data interpretation, or cabinet officers, who have limited portfolios. Indeed, this advisor would be responsible for counseling the President on how the many individual policies and actions of government fit together, just as the National Security Adviser does on security issues.

The National Competitiveness Adviser and a few staff experts could produce a wide range of basic information about the U.S. and global economies, including the status of specific industries, the consequences of proposed government actions on these industries, the cumulative effects of current and proposed policies, the approaches other nations are using to advance their industries, and policy alternatives and their impacts.

Establishing such a position would require neither massive government reorganization nor a large new bureaucracy.

One means to strengthen the role of the National Competitiveness Adviser and simultaneously make competitiveness a consideration in government decisions would be to require government to prepare a Competitiveness Impact Statement (CIS) for proposed legislation, policies, and regulations. These analyses would provide a much needed factual basis for decision-making.

Even more important, the CIS would allow government to anticipate the consequences of proposed actions. It would cost little to produce, enable decision-makers to anticipate the economic consequences of their actions, highlight many of the destructive practices that are crippling U.S. competitiveness here and abroad, and help make and keep the issue a national priority.

Conclusion

The nation is deeply entrenched in a new economic era that is unlike anything it has ever experienced. Our inability to adapt to the sweeping changes underway has already been costly. Moreover, these costs are sure to rise.

Clearly, new responses are required of business, workers and government. Equally obvious, the President, Congress and federal administrators lack the mechanisms and processes that will enable them to bring focus and coherence to their decisions, to anticipate and consider the implications of proposed actions on America's competitiveness.

Some reorganization of government is needed. In the future as in the past, however, reorganization is sure to be a difficult and slow process. Fortunately, complementary actions can be taken now. The two most important of these are the creation of a National Competitiveness Adviser within the Executive Office of the President and the requirement that major proposals be accompanied by a competitiveness impact statement.

The legislation being considered by this Committee will go far in taking these basic steps. I look forward to your questions on the two proposals I've suggested and their relationship to the legislation before you.

Thank you.

TESTIMONY TO THE SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS

March 26, 1987

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I appreciate the opportunity to discuss with you the legislation on competitiveness presently before the Senate. John Zysman, who, with me, directs the Berkeley Roundtable on the International Economy or as we call it the (BRIE), is unable to join us today and sends his apologies.

The issue of American industrial competitiveness in world markets will be an important one for the foreseeable future. For many years, the Berkeley Roundtable on the International Economy and the scholars who participate in it have been concerned with this issue. We believe quite strongly that the stakes in the current international economic competition are the wealth and power of the nation. I have included excerpts for the record of a number of our analyses of this issue, including Volume III of the President's Commission on Industrial Competitiveness which was prepared by the BRIE at John Young's request. Our definition of competitiveness, which has been adopted by the President's Commission, is as follows: "A nation's competitiveness is the degree to which it can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously expanding the real incomes of its citizens. International competitiveness at the national level is based on superior productivity performance and the economy's ability to shift output to high productivity activities which in turn can generate high levels of real wages. Competitiveness is associated with rising standards of living, expanding employment opportunities, and the ability of a nation to maintain its international obligations." As we noted, "it is not just a measure of the nation's ability to sell abroad and to maintain a trade equilibrium. The very poorest countries in the world are often able to do that quite well. Rather it is the nation's ability to stay ahead technologically and commercially in those commodities and services likely to constitute a larger share of world consumption and value added in the future. Clearly, a nation's ability to compete internationally is reflected by its ability to maintain favorable terms of trade, which in turn governs the ease with which its citizens can maintain their international obligations while enjoying steadily rising real incomes." We emphasized that "national competitiveness will...rest on competitive firms generating productivity levels needed to support high wages, especially in growth sectors. The competitiveness of firms depends upon the quality and quantity of physical and human resources, the manner in which resources are managed, the supporting infrastructure of the economy, and the policies of the nation."* National and corporate competitiveness are analytically distinct but practically intertwined.

The nature of the problem helps clarify what must be done. In a forthcoming book, **Manufacturing Matters: The Myth of the Post Industrial Economy**, Zysman and I have outlined our understanding of the competitiveness problem. The argument of the book is simple. It reduces to five slightly overstuffed propositions. 1) Manufacturing Matters. The manufacturing sector is critical to the health of the economy; lose manufacturing and you will lose -- not develop -- high-wage service jobs. The wealth and power of the

United States would decline drastically if major segments of manufacturing were to shut down or move offshore. 2) Changes in the extent and practices of international competition, coupled with the application on a mass scale of new microelectronics-based technologies are revolutionizing production; together they are creating a fundamental economic transition that puts the position of every nation in the international hierarchy of wealth and power, including the United States, up for grabs. 3) America is not adjusting well to the changes in the world economy. Evidence from a variety of measures and persepctives suggests a serious problem. The evidence that there is a problem, and that the problem is not simply one of exchange rates, is overwhelming; it is increasingly apparent even to many who resisted the notion over the past years. 4) Critically, weakness in production is eroding our competitive position. Manufacturing capabilities are decisive to the competitiveness of industrial firms; over time you can't control what you can't produce. American firms will have to give priority to redeveloping their production skills. 5) Policy sets the terms of the new competition and the context in which the new technology will evolve. It can help to upgrade a nation's competitive position in substantial and enduring ways or it can handicap national producers and accelerate a downward spiral of weakening production capability, slow and timid introductions of new production technologies, offshoring, and a flight into pure distribution and defense contracting. If we are going to be able to choose our own future, and not just submit to it, the focus of our policymaking attention will have to change: competitiveness will have to become a primary concern.

Happily, our task here today is to begin to consider what to do. I first want to emphasize several points that need to be made when discussing any specific proposals for competitiveness. First, there is the issue of priorities. Policy should pursue the competitive evolution of the American economy. We must -- for the first time perhaps -- make policy with priority attention to the dynamics of international competition, and of manufacturing competition in world markets in particular. We must succeed in and adapt to changing world markets, for we can no longer ignore them or shape the rules of play in those global markets to suit our preferences.

The matter of priorities is essential because there will be no quick fixes. The problems have emerged over several decades; they will not be fixed by instant solutions. Responses will require real investment in such basics of a sound economy as education and technological development. Results will not come easily, and they will cost money. It is expensive to make the investments in people and technology that long-term development requires. We will not be able to fix the problems with slogans but only with a hard and imaginative rethinking of a wide range of American policy and the willingness to sustain a long term investment in our national future.

Second, American policy must be made within some very serious constraints. Most importantly, the United States cannot compete in world markets by cutting wages. We didn't do this in the past when wage differences with our leading competitors -- the advanced countries -- were far greater than they are now. And to cut wages to Korean or Brazilian levels would represent a total, and catastrophic change in our society. Next, a strategy of defensive trade protection will not serve as a viable long-term policy to support high wages and sustained productivity. The arguments are quite clear. There are the classic arguments against protection: it triggers reciprocal responses by other nations and, ultimately shrivels the volume of international trade so that everyone loses -- but not, we should note, equally. Protection simply reduces the pressure on firms to make product and production changes required to be competitive. It reduces the effectiveness of the fundamental, long-term process of wealth generation. Over time, as our firms fall behind in innovation and in competitiveness, they will need more and more protection. Certainly, British efforts at constructing a system of Imperial Preference to insulate its industry in international markets from the emergence of Germany and other competitors did not succeed. Not only did the system not protect British industry, but it fooled British firms about the nature of competition they really faced and resulted in catastrophic strategies and tactics. There may be circumstances where the costs of adjustment or unfair tactics abroad make us turn to tactical protection, but as a long-term national strategy it will not solve our economic problems. Internationally, it would mean America walking away from its role as leader and organizer of the international economic system. The lesser problems associated with such a move might be the collapse of the world debt structure. The greater ones fall into categories of alliance instability. The policy problem of assuring our own competitiveness is not a matter of capturing gains from others, but of assuring our own abilities to participate fully in the possibilities of the new economy that is emerging. Finally, policies that are radically inequitable are unlikely to generate the broad political support required to sustain a national commitment to the priorities of competitiveness. The evidence is overwhelming that sustained growth requires a stable political solution to the question of how to allocate the costs and gains of development. When the gains are allocated to some and costs to others, such arrangements are rarely stable. When controversy rises about who wins and loses from industrial change, stable deals about how to promote competitiveness are rare. So the question is: how do we assure sustained growth with high-wage labor and without protection?

Third, trade policy will be a part, but only a small part of a long-run solution. Foreign practices have suddenly drawn our attention because our competitive position has weakened. In earlier years such practices were irritants, but irritants we could afford to ignore. Much of my own work and that of the BRIE group at Berkeley has focused on the consequence of economic policies abroad on international competition and American industrial development. This is because while we must search for trade rules that please us, we must organize domestically to assure our position in international industrial developments -- whatever the trade rules. We will not be able to dictate to others how they should organize their own domestic economies. Many of the pratices that trouble us differ from our own, but are not illegal. But most important, if we lose position in these competitions, we cannot bemoan the practices of others, but our own inability to sustain industrial and technological development. Consequently while we must pursu- the elimination of the practices that disturb us, our focus must be on the development of domestic capacities, whatever we pursue internationally.

Let me next turn to the particular proposals I was asked to comment on. Since each is a complex policy, and together they run a gamut from trade to education, some general remarks are appropriate. First, a Council on Competitiveness can be useful if it is seen as a means of generating the debate and discussion required to build an American consensus for the redevelopment of our industrial competitiveness. If it can maintain a focus on the real issues and problems it can perform an important service. The risk however is that the council will become policy in itself, a symbol or slogan that substitutes for the costly investment and hard and imaginative rethinking of policy that will be required.

Second, programs for education and retraining will be at the core of any long-term policy of competitiveness. A skilled workforce will be the core of the nation's economic strength. In a world in which capital and technology flow rapidly among nations, the capacity to effectively use those resources will be decisive. The quality and the skills of the people are decisive in establishing how productively industry operates. The education and retraining required will not only be for workers. Traditional management approaches to manufacturing in an era of fundamental industrial change, and to markets in an era of intensifying international competition, are part of the problem. Retraining managers will be as important as retraining workers.

Third, programs to make developments in foreign technology available quickly in the United States are of central national importance. For the last two generations the United States has been a source of technology to the world. Now as others have caught up and begun to force broad fronts of innovation on their own, we must assure quick and easy access to that technology. Certainly scientific communities are international and quite open, but much of technology moves in different channels, often flowing within national communities not through international markets. As much of the emerging technology is reported in languages that are difficult for Americans, it will diffuse slowly to firms in the United States. Certainly, large firms monitor such developments, often well, but the multitude of smaller firms have little access to and consequently little forewarning of developments abroad until they confront them in the marketplace. We cannot simply bemoan the lack of langauge skills in the United States or wait a generation to see if the problem is repaired. Programs to make scientific and technological knowledge from abroad readily available in the United States are essential.

Fourth, programs to support American trade abroad through increased information and policy support are useful and important.

Fifth, the United States requires for both security and economic reasons an open international trading system. At the same time trade practices abroad that prejudice American industry have become more pressing as our competitive position has weakened. Balancing competing objectives requires considerable executive discretion. I among others would like to see the balance of objectives reset, to see the priorities of policy give greater emphasis to the sustained economic and technological development of the country; we cannot in a direct way legislate that balance.

The real difficulty of penetrating the Japanese market is a serious problem. In advanced technology sectors, its closure is a critical part of the process by which Japanese firms have created advantage in world markets. Opening those markets must, consequently, be a central objective of policy. However, substituting bilateral reciprocity for a multilateral reciprocity, most-favored-nation approach would be a fundamental change in trade policy. We may wish to facilitate bilateral reciprocity as a negotiating approach and arm our trade negotiators. Compelling detailed reciprocity through legislation risks tumbling into an uncontrolled trade conflict with a signficant partner. We cannot compel other nations to mimic our structure and practices. Every practice in Japan cannot become the subject of legal dispute and trade friction between the countries. In sum, there is no substitute for a commitment by the executive branch to approach our trade problems in a determined and innovative way.

In conclusion, the initial and vital step in a policy of competitiveness will be building the support, an American consensus if you will, for the often difficult choices that will be required. We congratulate your committee for the steps it is taking in this regard.

As part of my testimony, I have attached the Volume III of the report of the President's Commission on Industrial Competitiveness.

VOLUME III

Global Competition

The New Reality

Report of the President's Commission
on Industrial Competitiveness

Competitiveness

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The President's Commission on Industrial Competitiveness was established on June 28, 1983 and given the mandate to review means of increasing the long-term competitiveness of U.S. industries at home and abroad, with particular emphasis on high technology. Implicit in this mandate was the President's recognition that a long-term problem exists or is developing, and that various measures might be needed to deal with it. In order to better understand the nature of the problem, it is first necessary to define what is meant by competitiveness.

I. DEFINING COMPETITIVENESS

Competitiveness has different meanings for the firm and for the national economy. At the level of the individual firm, competitiveness is a fairly easy concept to define and understand. A firm's competitiveness is its ability to increase earnings by expanding sales and/or profit margins in the market in which it competes. This implies the ability to defend market position in the next round of competition as products and production processes evolve. If the market is international in scope, so is the concept. Clearly, competitiveness is almost synonymous with a firm's long-run profit performance relative to its rivals.

An analogue exists at the national level, but in our view it is much more complicated. A nation's competitiveness is the degree to which it can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously expanding the real incomes of its citizens. International competitiveness at the national level is based on superior productivity performance and the economy's ability to shift output to high productivity activities, which in turn can generate high levels of real wages. Competitiveness is associated with rising living standards, expanding employment opportunities, and the ability of a nation to maintain its international obligations. It is not just a measure of the nation's ability to sell abroad, and to maintain a trade equilibrium. The very poorest countries in the world are often able to do that quite well. Rather, it is the nation's ability to stay ahead technologically and commercially in those commodities and services likely to constitute a larger share of world consumption and value added in the future. Clearly, a nation's ability to compete internationally is reflected by its ability to maintain a favorable terms of trade, which in turn governs the ease with which its citizens can maintain their international obligations while enjoying steadily rising real incomes.

National competitiveness will, of course, rest on competitive firms generating the productivity levels needed to support high wages, especially in growth sectors. The competitiveness of firms depends upon the quality and quantity of physical and human resources, the manner in which resources are managed, the supporting infrastructure of the economy, and the policies of the nation. National and corporate competitiveness are analytically distinct but practically intertwined.

II. THE NEW CHALLENGE OF INTERNATIONAL COMPETITION

A. The New Importance of Trade to the United States Economy

Unprecedented international economic growth for more than two decades following the second world war fueled an expansion of world trade. Indeed the expansion of trade was even greater than the expansion of world output. Rapid technological advance in transportation and communications, currency convertibility, and the general liberalization of commercial policy (with some notable exceptions), facilitated this expansion. The end result is that the world is both wealthier and more interdependent.

The U.S. economy has shared in the growing openness and interdependence of the world economy. Trade as a percentage of GNP in the U.S. has increased from 7.0% in 1960 to about 15% in 1982. While the importance of trade to the U.S. economy has grown, however, the U.S. share of world trade has fallen from 16% in 1960 to 11% in 1980.[1]

Moreover, these aggregate statistics understate the sensitivity of the U.S. economy to international trade in certain critical areas. For example, exports increased from about 9% of U.S. production of manufactured goods in 1960 to about 19% in 1980, while imports increased from about 5% of domestic production in 1960 to about 23% in 1980. A recent study of U.S. trade by the New York Stock Exchange reveals that within total manufacturing, import penetration ratios (imports/U.S. domestic production) increased in 28 out of 40 industries[2] during the 1972-82 period (see Figure 1). Taken together these industries accounted for roughly 70% of total U.S. domestic production in 1977, the mid-point of the period under consideration in the study.[3] The trend toward greater import penetration would be even more dramatic in most industries if measured over the 1960-82 period.

Overall, the figures reported here and many others like them indicate that whereas the United States was once fairly immune from the vicissitudes of other economies and the economic policies of their governments, the American economy today is sensitive to changes in the international market place as it has never been before. Moreover, technological change is occurring faster now, abroad as well as at home. The net result is that the American economy is more tightly connected than ever to world markets and more pressured than ever to adjust to technological, commercial, and governmental developments abroad.

America's changing position in international trade is also suggested by changes in the structure of its trade. Both the commodity and geographical distribution

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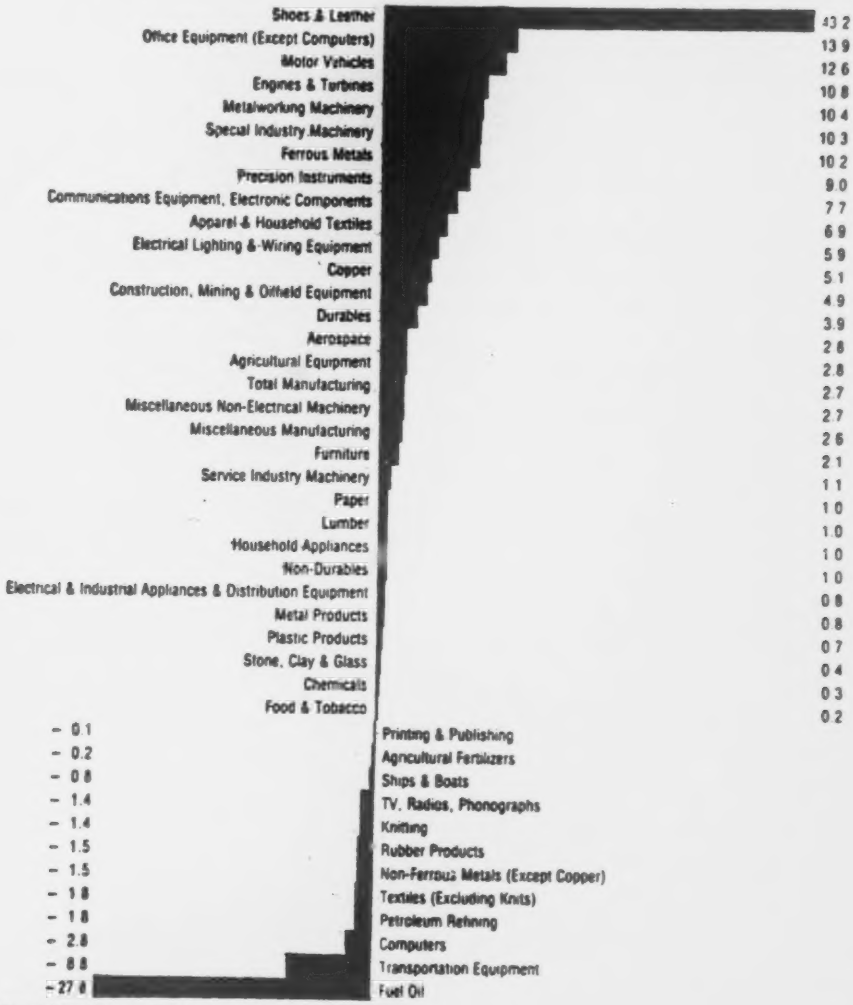
[1] United States Department of Commerce, International Trade Administration, U.S. Competitiveness in the International Economy, October 1981.

[2] New York Stock Exchange, Office of Economic Research, International Competitiveness: Conception and Reality, August 1984.

[3] This figure is based on the gross domestic output figures from the 1977 input-output table for the United States.

Figure 1

Change in Import Penetration of U.S. Industry, 1982 vs. 1972
(Percentage Point Change in U.S. Import/Output Ratio*)



*Import/Output Ratio = U.S. Imports ÷ U.S Domestic Production

Source: University of Maryland; New York Stock Exchange, August 1984.

of trade have changed in several important respects. Overall, manufactured goods remain the single largest category of both exports and imports, accounting for about 69% of total merchandise exports and 64% of merchandise imports in 1970 and for about 66% of merchandise exports and 63% of merchandise imports in 1983.[4] Within manufactured goods, there have been shifts in the structure of trade. For example, a recent study by Branson reveals that within manufacturing the U.S. ran a net trade surplus in chemicals and capital goods (including electronics and electrical machinery) which increased in real terms by about 200% between 1973 and 1980, while the U.S. ran a net trade deficit in industrial supplies (especially steel), consumer goods, and automobiles which increased in real terms by about 48% over the same period. The shift reveals the pull of trade on resources in the U.S. economy away from the growing deficit sectors and toward the growing surplus ones.[5]

The geographical pattern of U.S. trade in manufactured goods has also undergone some important changes on the import side. For example, in 1962 Western Europe supplied about 46% of total U.S. imports of manufactured goods. By 1980, the share had dropped to 20%. This drop was almost exactly matched by a rise in the share of Asia in total U.S. imports. Japan's share of U.S. manufactured imports increased from 16% in 1962 to 24% by 1980 and the nations of East Asia -- especially Korea, Singapore, and Hong Kong -- increased their share from 5% of U.S. manufactured imports in 1962 to 16% by 1980. These figures indicate that the nations of Asia, especially Japan, have emerged as vital trade partners and serious competitors of the U.S. during this period. Regional variations in the U.S. pattern of exports have been much less dramatic. Between 1962 and 1980, Western Europe's share of U.S. exports remained steady at about 30%. The only major change was a doubling in the share of U.S. exports going to East Asian nations - from 5% in 1962 to 10% by 1980.[6]

B. The Forms of Competition

By now, the growing significance of trade and international competition to the well being of the U.S. economy is widely acknowledged. The U.S. is today more sensitive to changes in world markets than it was just two decades ago. To understand the issues we must clarify the dynamics of competition in international trade. American producers seem to encounter three types of problems in international competition.

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[4] Calculated from trade figures in United States Department of Commerce, International Trade Administration, International Economic Indicators, June 1984.

[5] William Branson, "The Changing Structure of U.S. Trade: Implications for Research and Policy," National Bureau of Economic Research, March 1984.

[6] The figures on geographical trade shares reported in this paragraph are taken from the Office of the U.S. Special Trade Representative, Annual Report of the President of the United States on the Trade Agreements Program, April 1984.

First, Newly Industrializing Countries (NICS) have entered American markets in a series of industries by combining in varied formulas low cost labor, government promotion, and standard technologies. Textile and apparel are the most traditional examples. As steel technology has been standardized and diffused through consultants and plant construction firms, some of the NIC's have become a challenge in that sector as well. American firms have three possible strategic responses to such competition: offshore production to match foreign labor costs, specialty or advanced products to move competition away from a price battle, and automation and innovative production to reduce the labor content in manufacturing with process techniques that are not easily copied.

Second, there are industries where product quality and cost position depend on the mastery of complex manufacturing processes. Here production costs do not depend primarily on labor, but on the way the production process is organized and managed. In these industries, success depends on such factors as the quality and speed of product design, the organization of production, and service. Automobiles and televisions are good examples. Performance depends not just on the level of capital investment, but on the way the equipment is used.[7] Competition in such industries tends to be concentrated among the advanced industrial countries. Because production costs for firms in these countries have tended to converge during the postwar period, trade among them has often not been primarily based on price or cost competition but on product specialization. The result has been a dramatic growth in intra-industry trade among the advanced industrial countries[8] -- typified, for example, by the consumer durables and auto industries in which most of the advanced industrial countries have both significant exports and imports, with the notable exception of Japan which comparatively tends to export but not import these goods. Increases in intra-industry trade based on product specialization -- the Germans buying French Renaults and the French buying BMW's -- have limited the costly displacement and movement of resources across industry lines -- for example the movement of labor from steel or textiles into communications -- that inter-industry trade among the advanced industrial countries would require.

The dynamics of competition become very different when one or more countries gain a production cost advantage as a result of an advance in manufacturing that is not matched by their competitors. For example, available evidence indicates that Japanese firms employ fewer manhours per unit of production than their American or European competitors in a variety of industries.[9] Regardless of the source of the cost advantage -- whether it results from differences in the organization of production, the level of capital investment, or from the closure of the Japanese market to outside competition -- the result is that competition between Japan and the other advanced industrial countries is more frequently based on cost advantage than on product specialization. As a consequence, the pattern of intra-industry trade based on product specialization tends to give way to a pattern of trade in which competition from Japan displaces producers in the other advanced industrial countries and is not matched by an equivalent growth in exports into Japan.

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[7] The evidence is substantial that seemingly identical plants in different countries have dramatically difficult levels of productivity.

[8] The significance of intra-industry trade is suggested by a recent study which shows that for the major industrial countries there are very few industries (classified at a medium level of detail) with less than 30% of total trade as intra-industry trade (Charles Schultze, "Industrial Policy: A Dissent," The Brookings Review, vol.2, no.1, Fall 1983). For a broader analysis of evolving trade dynamics see John Zysman, Governments, Markets, and Growth, Cornell 1983 and Laura Tyson and John Zysman, "American Industry in International Competition" in American Industry in International Competition, Cornell 1983.

[9] Ira Magaziner and Tom Hunt, Japanese Industrial Policy, Institute of International Studies, Berkeley. 1982.

A third form of competition characterizes the high technology industries. Advances in product performance based on research and development are critical. Sustained product innovation is essential to an enduring competitive position in R & D based industries, but manufacturing expertise is essential for a firm to defend the market position it establishes with a product innovation. In the semiconductor industry, production of commodity products has been critical to competitive success. The so-called commodity semiconductors (like memories and microprocessors) are in fact highly sophisticated R and D based products. The production process used to make them is a highly automated system of continuous batch manufacture. Similarly, major telecommunications producers have automated assembly of their products in a dramatic manner to remain competitive in production. The point is that as advanced products are copied -- and the pace of imitation is faster now both because competitors are closer to the same technology frontier and because design processes can be accelerated -- holding markets in high technology competition depends more than ever on manufacturing.

What is common to these three categories of competition is the importance of manufacturing processes to retaining industrial competitiveness. When pressed by low cost producers, American companies can sometimes transform a labor intensive production process into one that is capital intensive. This, of course, involves substantial displacement of labor. Sharp dislocations of workers and communities have generally produced political trouble that disrupts the adjustment process. Competitive position over time in a broad range of products, such as consumer durables, rests squarely on the ability to master the most advanced manufacturing techniques. Such mastery requires the active support and participation of labor. Even in the so-called haven of high technology, the long-run competitiveness of firms and the national economy will rest on translating product advantage into enduring market position through manufacturing expertise.

C. Foreign Development Strategies Amplify Competitive Pressures

The pressures from each of these forms of competition are amplified by the concerted strategies of foreign governments to promote national industrial development and the competitive position of their firms.[10] The promotional strategies of Japan, Korea, Brazil, and France are now part of the competitive reality facing American firms. Japan is the most successful and closely examined example of a developmental state. That government's systematic policies helped move the economy from labor-intensive goods, such as textiles, to consumer durables such as televisions and automobiles, and most recently into the advanced technology sectors of computers and soon aircraft. The Japanese have made us realize that under some circumstances such developmental policies can work. They have shown the path and the stakes. The French have also understood the power of such an approach in their promotion of internationally competitive firms in telecommunications, aerospace, nuclear energy, petrochemical and off-shore engineering, avionics, and transportation equipment. They have demonstrated to interested nations that success is not tied to the inimitable cultural and social peculiarities of Japan, such as its management traditions. The governments of the newly industrializing countries are attempting to repeat the Japanese strategy, starting again at the beginning of the cycle in labor-intensive sectors or in sectors with stable and easily available technologies. Such late developers have a series of advantages including the ability to apply the best available technology, which in established industries is not difficult to obtain or to use. Competitive pressure will not be restricted to traditional industries, as Brazil's success in penetrating our markets in steel and light aircraft clearly show. "The notion that comparative advantage can be created and not, as static trade theory suggests, just revealed, lies behind the concerted government strategies to create international industrial advantage that are the core of developmental policy".[11]

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[10] For a full analysis, see John Zysman and Steve Cohen, "Double or Nothing: Open Trade and Competition Industry" Foreign Affairs, Summer 1983, and Steve Cohen and John Zysman, "Trade, Government, and Industrial Development" in manuscript 1984.

D. The Challenge Summarized

The new challenge of international competition has three elements. First, the American economy is more sensitive to international competition than at any other time in its history. It has done well against its traditional European competitors but has been pressed by its new Asian rivals. Second, manufacturing expertise is critical to each form of international competition. Third, foreign government policies to create market advantage amplify competitive pressures on American firms. Foreign competition creates distinct market challenges, challenges amplified by developmental policies abroad.

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[11] Ibid. See also Michael Borrus, Laura Tyson, and John Zysman, "Creating Advantage: How Governments Shape Trade Outcomes," Export-Import Bank, 1984.

III. EVIDENCE THAT THERE IS A PROBLEM

A. Indices of a Troubled Adjustment

The U.S. economy is currently in a strong recovery. Nevertheless, there is evidence of a secular weakening of the U.S. competitive position which appears to have begun in the late 60's. It is not verified by any one indice, but it is suggested by several. No single indicator can reflect fully the position of an entire economy, or of a nation's firms, in world trade. Since each indice captures a different aspect of the nation's competitive position, any single indice can be explained away. Taken together a picture emerges of a troubled national adjustment to a changing world economy. The five indices considered here are the trade balance, world market shares, technological position, productivity performance, and real wage trends and profitability in manufacturing.

The first obvious measure is the trade balance, even though it must be treated with great caution. The merchandise trade balance, which was positive from 1893 to 1970, turned negative in 1971, and, except for 1973 and 1975, has been in retreat ever since (see Table 1). Increases in energy prices certainly played an important role in this development. Nonetheless, there has also been a decline in the non-energy merchandise trade balance as well.

In contrast to Germany and Japan, the U.S. was unable to offset its growing energy trade deficit with a growing trade surplus in manufactured goods. The U.S. trade position in manufactured goods moved erratically during the 1970-80 period. (See Table 2.) Despite a large depreciation of the dollar -- which cut the prices of U.S. exports on world markets -- the U.S. was not able to sustain a growing trade surplus in manufactured goods during this period. Moreover, since 1980, the sharp appreciation of the dollar has contributed to a growing trade deficit in manufactured goods, a deficit which reached a postwar high of $31.0 billion in 1983.

A more fine grained analysis indicates very considerable inter-industry differences in trade performance. For example, the U.S. runs a merchandise trade surplus in high-technology manufactured goods and a deficit in non-high-technology manufactured goods. The surplus in high-technology goods reached a peak of $25.5 billion in 1980 and the deficit in non-high-technology manufactured goods reached a peak of $55.2 billion in 1983 (Table 3). The surplus in high-technology manufactured goods has been insufficient to offset deficits in other areas, including the area of non-high-technology manufactured goods. As a result the overall merchanidse deficit has continued to grow.

The second measure is U.S. shares of world trade flows. By themselves, data on the size of the trade deficit or the levels of imports and exports give a misleading picture of competitiveness. For example, the size of the U.S. trade surplus in high-technology goods tells us nothing about how the U.S. is doing relative to the growth of world markets for such goods. The share data suggest a troubling story. According to one measure, the U.S. share of manufactured goods exports in world markets, measured in value terms, has declined from about 26% in 1960 to about 18% in 1980. (See Figure 2.)

Table 1

U.S. International Transactions
Selected Accounts
($ Billions)

	Merch. Trade Balance
1960	4.9
1961	5.6
1962	4.5
1963	5.2
1964	6.8
1965	5.0
1966	3.8
1967	3.8
1968	0.6
1969	0.6
1970	2.6
1971	-2.3
1972	-6.4
1973	0.9
1974	-5.5
1975	8.9
1976	-9.5
1977	-31.1
1978	-34.0
1979	-27.6
1980	-25.5
1981	-28.1
1982	-36.4
1983	-60.6

Source: U.S. Department of Commerce, Bureau of Economic Analysis

Table 2

Trade Balance in Manufacturing
($ Billions)

	United States	Japan	Germany
1970	3.4	12.5	13.3
1971	0.0	17.1	15.0
1972	-4.0	20.3	17.7
1973	-0.3	23.3	28.7
1974	8.3	38.0	42.4
1975	19.9	41.7	38.7
1976	12.5	51.2	42.1
1977	3.6	63.0	46.9
1978	-5.8	74.2	53.5
1979	4.5	72.0	59.2
1980	18.8	93.7	63.1
1981	11.8	115.6	61.7
1982	-4.3	104.0	67.5
1983	-31.0	110.3	58.7

Source: U.S. Department of Commerce, International Trade Administration

Table 3

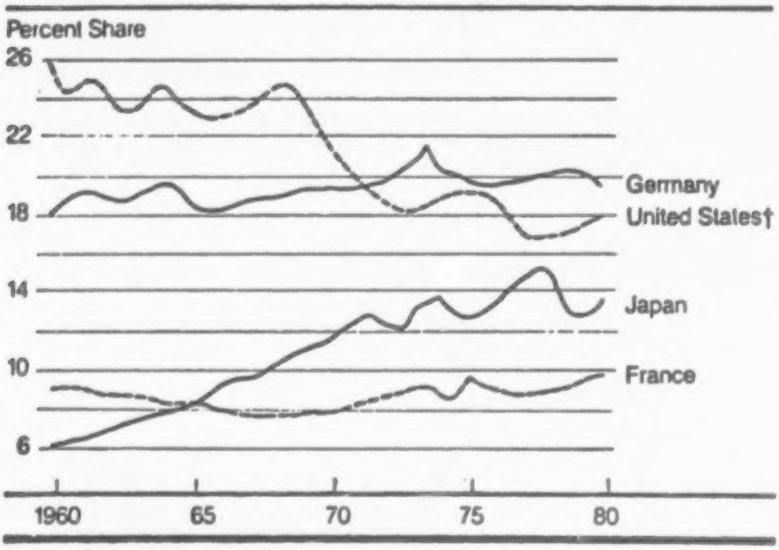
U.S. Merchandise Trade Balance In High-Technology and Non-High-Technology Manufactures ($ Billions)

	HIGH TECHNOLOGY	NON-HIGH-TECHNOLOGY
1970	6.1	-3.8
1971	6.5	-8.4
1972	5.6	-11.9
1973	8.0	-11.0
1974	11.7	-7.7
1975	13.4	2.6
1976	12.4	-4.8
1977	12.0	-13.7
1978	13.8	-26.1
1979	19.8	-22.0
1980	25.5	-13.1
1981	25.0	-19.7
1982	22.0	-32.6
1983	17.0	-55.2

Source: U.S. Department of Commerce, International Trade Administration

Figure 2

UNITED STATES SHARE IN WORLD TRADE IN MANUFACTURES: 1960-1980



*Exports from 18 major industrial countries.
†Excluding imports to the U.S.

Source: Computed from the Federal Trade Commission

*From U.S. Competitiveness in the World Economy, eds. Bruce R. Scott and George C. Lodge (Boston: Harvard Business School Press, 1985), "National Strategies: Key to International Competition," Bruce R. Scott, p. 27.

Some would question the significance of such figures. If constant price deflated data are used, the story becomes somewhat more confused. For example, a recent report commissioned by the New York Stock Exchange indicates that the U.S. share of manufactured goods exports, measured in constant price and volume terms, remained roughly unchanged between 1962 and 1980. (14.8% in 1962 versus 14.7% in 1980).[12] Taken together, the share data in value and volume terms suggest that the U.S. was able to regain its share in the volume of manufactured goods exports after 1977 as a result of the substantial depreciation of the dollar which occurred between 1977 and 1980. The fall in the prices of U.S. goods relative to the goods of other countries, resulting from the dollar depreciation, represented a deterioration in the U.S. terms of trade -- in other words, the same real quantity of our exports could purchase only a smaller real quantity of our imports. This interpretation suggests that value shares rather than volume shares are a better indication of growing competitiveness difficulties over the 1960-80 period.[13] The depreciation was not a sign of our renewed competitiveness in the sense of our ability to compete internationally while maintaining high real wages and a high standard of living, but rather a sign of our diminished competitiveness. Depending on how they are read, the data show a loss in share of world export markets or a direct loss in our national welfare as a result of declining competitiveness.

On a disaggregated level measured in value, the data on market share indicate clear problems. As Figure 3 indicates, the U.S. share of high technology exports has declined over the 1962-80 period.[14] Figure 4 also suggests similar conclusions using different time periods and different industrial categories.[15] The data show that between 1965 and 1980, the U.S. held onto its market share in aircraft and parts, gained slightly in office, computing and accounting machines, gained significantly in agricultural chemicals (partly because U.S. energy prices were below world market levels) and lost shares in

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[12] New York Stock Exchange, op.cit., p.12. A recent update of the figures indicates that the U.S. volume share of manufactured goods exports declined from 14.7% in 1980 to 12.3% in 1982.

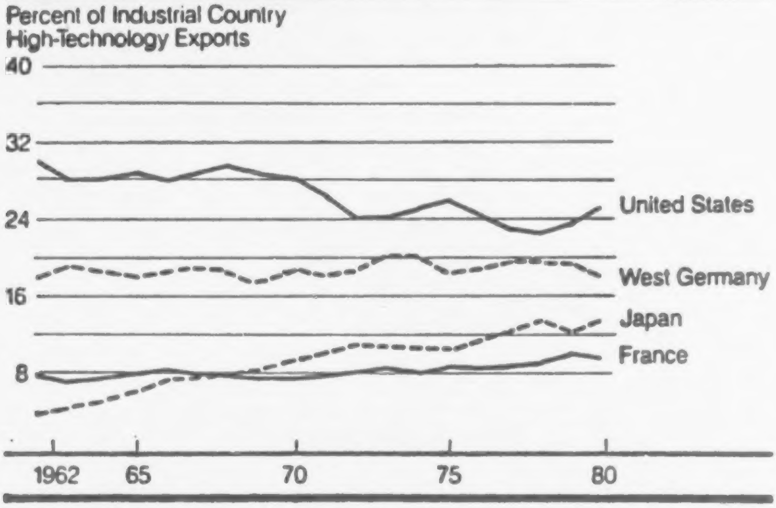
[13] Although changes in value share are preferable to changes in volume share as an indication of competitiveness difficulties in the long run, changes in value shares must be interpreted carefully in the short run. Over relatively short periods of time, changes in value shares can be dominated by changes in the exchange rate. A dollar depreciation automatically reduces the U.S. value share of world exports in the short run. This short-run effect may last anywhere from a few quarters to one or two years. Over longer periods of time, however, what happens to the U.S. value share depends on how patterns of international demand adjust to changes in the exchange rate. Over the long run, such as the 1960-80 period, changes in the U.S. value share reflect changes in U.S. sales relative to those of foreign competitors after changes in demand patterns caused by intervening exchange rate adjustments have had time to work themselves out.

[14] Bruce Scott, "American Competitiveness: Problems, Causes, Implications," Harvard Business School, 1984.

[15] Ibid.

Figure 3

Shares of Major Industrial Countries' High-Technology Exports



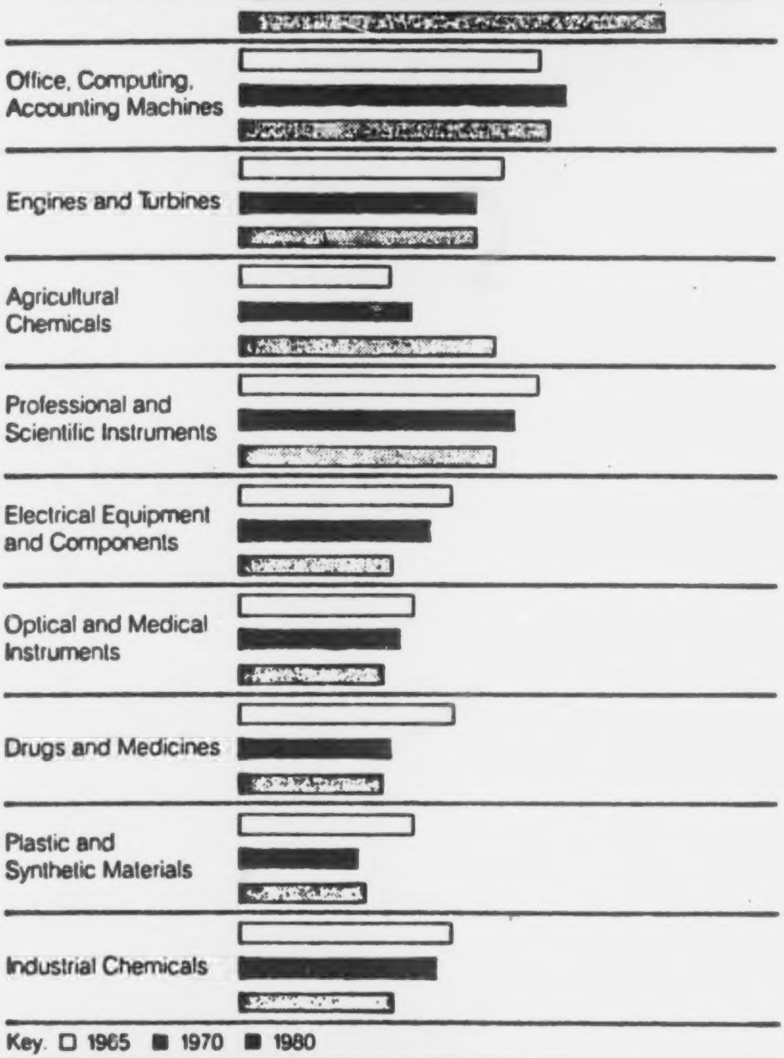
The industrial countries are Austria, Belgium, Canada, Denmark, France, Italy, Japan, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States, and West Germany

Source: Department of Commerce/International Trade Adm., from UN Series D Trade Data

From "National Strategies: Key to International Competition," Bruce R. Scott, in Scott and Lodge, eds., U.S. Competitiveness in the World Economy (Boston: Harvard Business School Press, 1985), p. 28.

Figure 4

United States Shares of World High Technology Exports



Source: United States Department of Commerce

From "National Strategies: Key to International Competition," Bruce R. Scott, in Scott and Lodge, eds., U.S. Competitiveness in the World Economy, p. 29. The Scott table is in turn based on Department of Commerce, International Trade Administration, "An Assessment of U.S. Competitiveness in High Technology Industries," February 1983, p. 10.

every other category. Overall, the market share data do "not show a broad based pattern of adjusting exports toward high technology areas".[16] The data show the expansion is concentrated in a limited number of sectors -- aircraft, computers, and agricultural chemicals. Particularly since a significant part of aircraft exports are military, the shift in commercial goods is more limited. Market share analysis also shows that our move into the high technology sectors was slower than that of our strongest competitor, Japan (Figure 3). Significantly, the volume share data in Figure 5 also indicate that the U.S. share in world exports of high technology goods failed to recover to 1960 levels by 1980. In other words, the depreciation of the dollar in the late 1970's did not restore the U.S. share of markets for these goods. Lower dollar prices in the 1977-80 period restored our ability to compete in traditional non-high-technology goods where price competition is important. In high-technology goods where nonprice forms of competition are critical, the depreciation was not as effective at improving the U.S. competitive position.

National market share figures are often discounted as cause for policy concern on the grounds that they simply reflect the inevitable catch-up and development of foreign countries in industries that were once dominated by U.S. producers. Declining market share is then seen not as a loss in American competitiveness but as a reflection of the desirable economic development of our trading partners. While that interpretation has merit, it overlooks two important issues. First, there is nothing inevitable about the character or the pace of the development and catch-up of our partners. The policies of the U.S. and of foreign governments shape the process and are a legitimate source of policy concern in the U.S. Second, the nature of the catch-up and its reflection in declining U.S. market share can have important implications for the future course of U.S. competitiveness. The problem may be serious where decline in share occurs because imports have risen in the United States, because third markets are lost, or because we cannot export into the home markets of our major competitors. Then, it suggests a loss of the capacity to compete in future products and future markets, not just the industrial catch-up of our partners. In semiconductors, for example, Japanese world market share has been built on an expansion of sales in the United States and Europe, while imports as a share of the Japanese national market have remained constant. The declining U.S. world market share suggests a growing Japanese competitive strength. Indeed, Japanese market positions are providing the base for further capital and R & D investment with Japanese investment running at 45% of gross sales. In sum, our national shift into technology intensive sectors is not as secure as it may at first seem.

Finally, many so-called traditional industries are being revolutionized by advanced production, and competitive advantage in them rests increasingly on the mastery and integration of product design and advanced manufacturing. We are consequently misled by data that show we are moving out of these supposedly low value-added sectors, when the more important measure is whether we are adequately participating in their transformation. We are misled because the old industrial categories do not fit the new reality and distort understanding of our trade problems. Although an industrial sector may show a low level of R & D as a percentage of sales which is the normal measure of an advanced technology industry, it may still be a high value-added sector in which the U.S. could expect to retain or regain advantage. Thus, critical product or production

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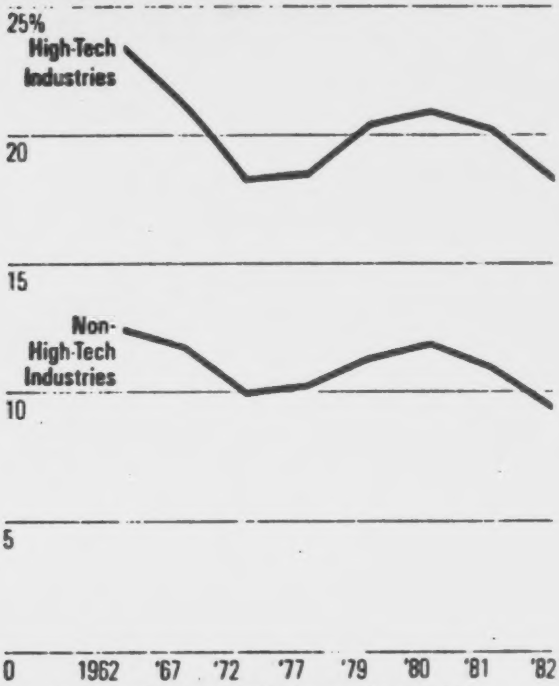
[16] Ibid., p.32.

Figure 5

U.S. Share of World Exports
High-Tech vs. Non-High-Tech Industries



For a definition of high-tech industries, see footnote 14.

Note: World shares based on constant dollar data.
Sources: University of Maryland; NYSE.

innovation, such as the automation of apparel production, reshapes competitive dynamics and permits the advanced countries to retain advantage in segments of traditional sectors. This is certainly the case in segments of the textile and apparel industries. Again, traditional statistics deceive us about the importance of production rather than product innovation.[17] Thus, many of our competitive problems cannot just be dismissed as the proper and inevitable decline of sectors from which we should be exiting anyway. Within these sectors are segments in which American producers can remove competitive as part of a national comparative advantage in R & D based industries.

Technological capability, our third measure, underlies the ability to market a stream of new innovative products at competitive prices. As mentioned earlier, trade balances in high technology industries reflect the ability to keep ahead technologically. In principle, therefore, competitive position is capable of being measured directly by comparing technological capability. One simply has to compare the technological position of American firms with the position of their principal rivals. This of course requires frequent judgement calls, over which the experts may disagree. However, there are suggestions from a series of government and private studies that America's technology advantage in a number of advanced technology industries has seriously eroded in ways likely to cause competitive problems in world markets. For example, ten years ago America's technology position in microelectronics was unchallenged. Now in a range of critical areas, the Japanese have gained or are verging on leadership.[18] Unless current trends are reversed, the advantages the U.S. currently holds will erode further.[19]

The source of the technological problem may not be hard to find. While the United States has the highest proportion of scientists and engineers in the labor force of any country except the Soviet Union, from the late 60's through the early 70's the ratio of R & D scientists and engineers to the labor force declined in the U.S., from 66.9 per ten thousand in 1963 to 55.5 in 1976. Although the rate has increased in the past few years, rising to 63.8 in 1982, it has not regained its former level. In most other countries, especially Japan and West Germany, this ratio steadily increased over the same period (see Figure 6). Even more compelling is the fact that over the past two decades, West Germany and Japan have had by far the highest ratios of national civilian R & D expenditures to GNP. In 1981, the most recent years for which comparable data are available, the ratio of civilian R & D expenditure to GNP was 2.5 in West Germany, 2.3 in Japan, and 1.7 in the U.S. (Figure 7).

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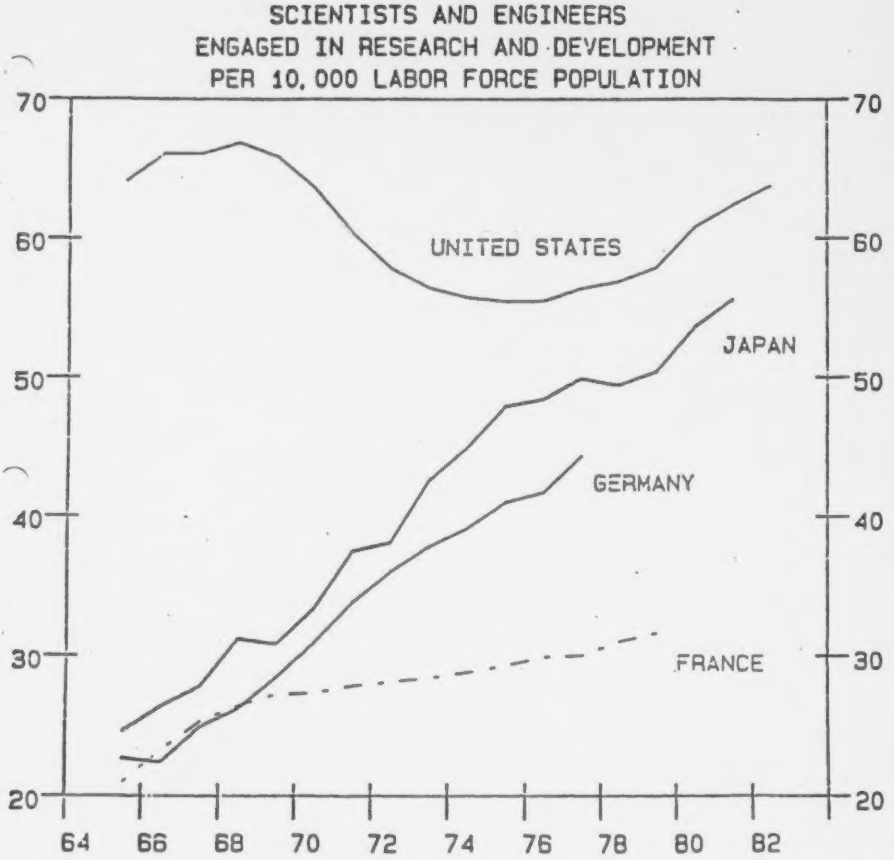
[17] Investment in manufacturing innovation and its significance to competition can be understated because it takes place in the products of supplier firms, it is spread across a range of volume products, not just one good, and it is grouped with capital investment.

[18] See for example the analyses of worldwide competitiveness undertaken by the Semiconductor Industry Association.

[19] An MITI survey of 189 technologies in 43 product fields showed the U.S. superior or equal to Japan in 80% of the product technologies surveyed, but Japan superior to the U.S. in 80% of the process technologies surveyed. Additionally, the U.S. lags behind Japan in the adoption of robotics to production processes. See "Harvard Sector Study, A Competitive Assessment of the Robotics Industry," May 1984.

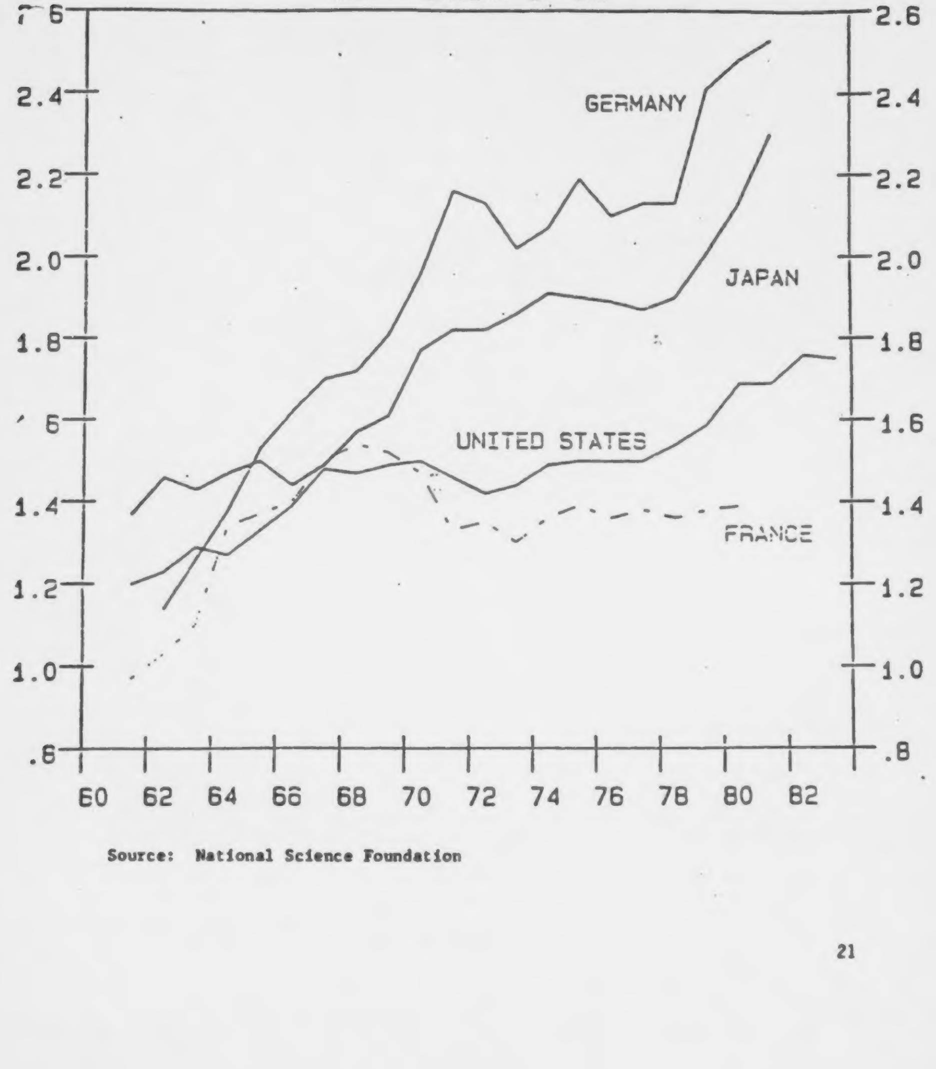
Figure 6



Source: National Science Foundation

Figure 7

CIVILIAN RESEARCH & DEVELOPMENT EXPENDITURES
AS A PERCENT OF GNP



Source: National Science Foundation

Of course, inputs into the R & D process can only proxy for what is really important, namely innovation. Innovation is difficult to measure directly, but patent statistics are suggestive. Domestic patenting by U.S. inventors declined 39% from 1966 to 1983 (see Figure 8) while patenting in the U.S. by foreign inventors rose (see Figure 9).

National defense requirements will always absorb a major portion of U.S. scientific and technological manpower, and the recent expansion in weapons procurement has added and will continue to add additional demands on the nation's scientific and technological resources. The supply of engineers in the U.S. has, however, fallen markedly behind the ratios of other advanced industrial nations. For example, the U.S. graduated 69,300 bachelor degree-level engineers in 1980 while Japan graduated 73,500 with a population half that of the U.S. The effect has been to drive up wages for engineering talent in the U.S., thereby increasing the costs of R & D and constraining its scope. The fourth measure of competitive position in manufacturing is productivity growth.[20] U.S. data broadly confirm that U.S. exporting industries have higher levels of labor productivity than other sectors.[21] While the U.S. still has the highest level of labor productivity in the world, productivity growth in many nations has outstripped U.S. rates during the past two decades. For example, the data in Figure 10 indicate that the overall rate of growth of productivity in the economy, measured by the rate of growth of real GDP per employed person, was significantly lower in the U.S. than in the other advanced industrial countries during the 1973-83 period. Although productivity growth in manufacturing was higher than overall productivity growth in the U.S., it was still sharply lower than productivity growth in manufacturing in Germany and Japan, as the data in Figure 11 indicate. Although the current recovery is associated with dramatic productivity increases, these secular trends are troublesome. A major factor responsible for the lackluster productivity record in the U.S. has been the low and declining level of net capital formation. Since much process innovation is embodied in new equipment, a slow rate of capital formation implies that the vintage of the technology being employed ages. Because older technology is less productive then state-of-the-art technology, productivity growth falls below its potential. True, the U.S. has fared better then many other advanced nations; yet at the same time Japanese investment rates are considerably higher than the U.S. rates (Figure 12).

The fifth and final indicator is that average real wages in manufacturing have gone down in real terms over the past 10 years. Starting in 1949 and continuing on right through 1973, average weekly earnings in manufacturing (gross pay, in constant dollars) rose steadily, year after year. In the past decade, there have been some ups and downs, but no cumulative increase; since 1980 real wages have stayed well below their 1973 level (see Figure 13).[22] Moreover, despite

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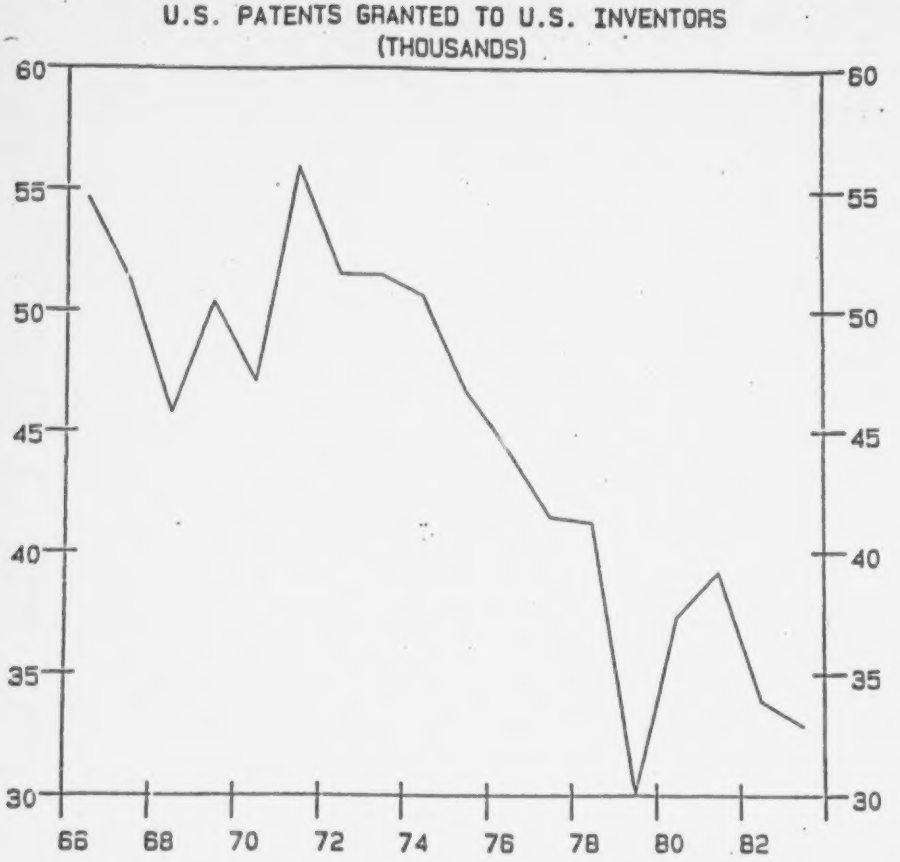
[20] National resources do not appear to be as significant in affecting wealth positions amongst developed or developing nations. In any case, the distribution of the world's natural resources is not especially amenable to policy instruments and so is not discussed here.

[21] President's Report, op.cit., p.41.

[22] U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings.

Figure 8



Source: U.S. Department of Commerce, U.S. Patent and Trademark Office

Figure 9

U.S. PATENTS GRANTED TO FOREIGN INVENTORS
(THOUSANDS)

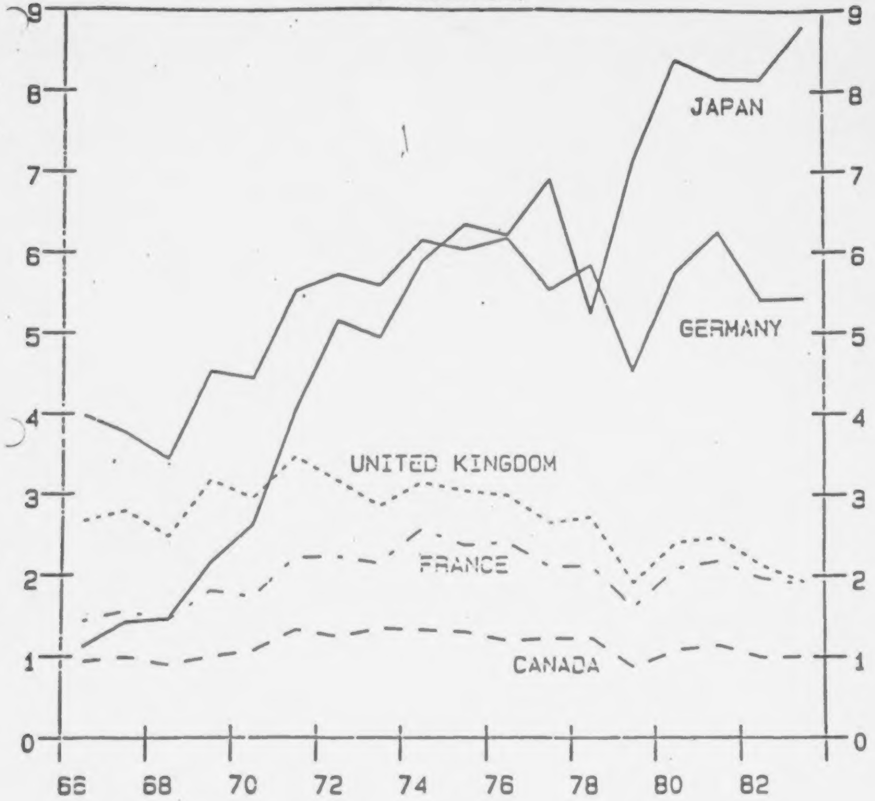
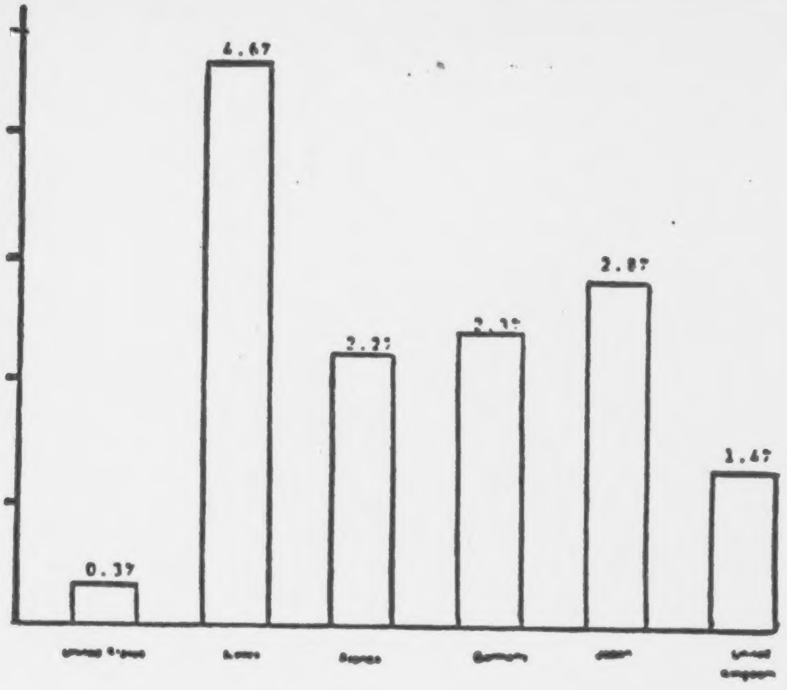


Figure 10

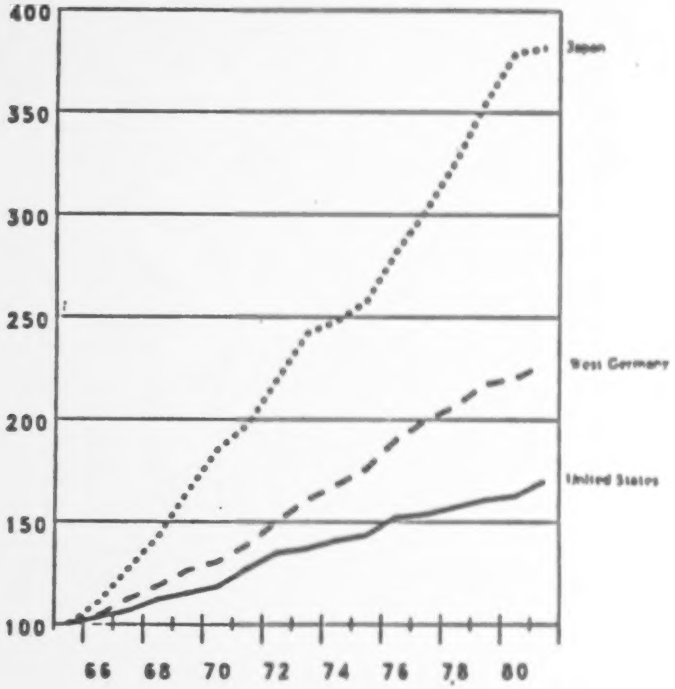
Real Gross Domestic Product Per Employed Person (Average Annual Percent Change), in Selected Countries, 1973-1983.



Source: National Accounts, Dept. of Labor, 1984

Figure 11

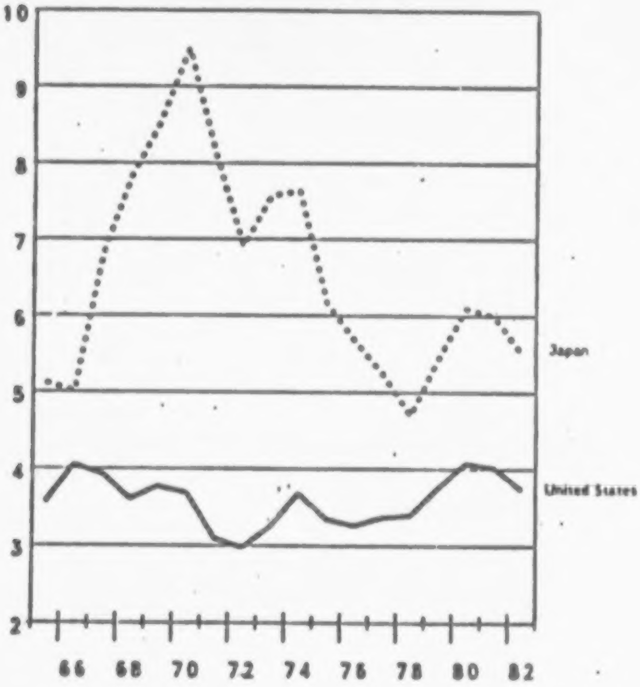
Manufacturing Productivity, Japan, U.S. and West Germany, 1965-1981 (Index, 1965=100)



Source: The DRI Report on U.S. Manufacturing

Figure 12

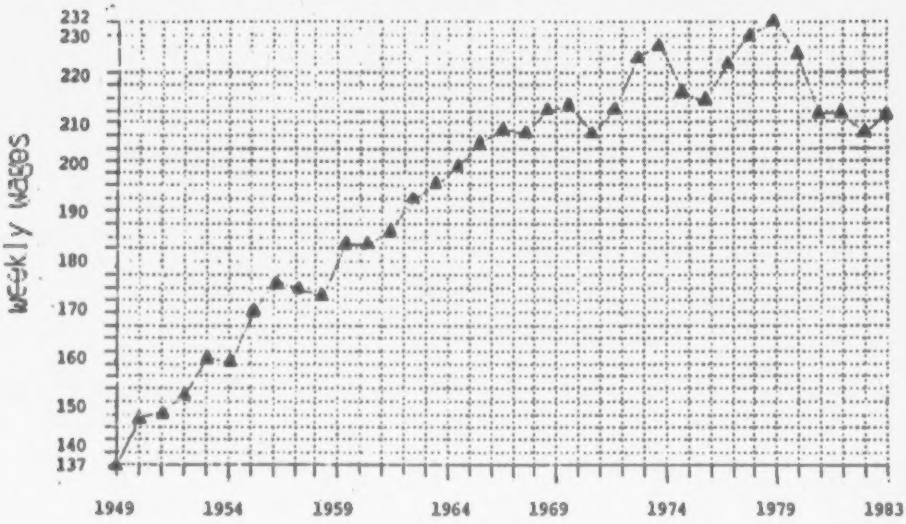
Real Manufacturing Investment as a Share of GNP, Japan and the United States, 1965-1982 (Percent)



Source: DRI, op.cit., p.28.

Figure 13

U.S. Real Wages, Manufacturing, 1949-83, in 1977 Dollars



Source: U.S. Department of Labor, Bureau of Labor Statistics the decline in real wages, the pre-tax rate of return on assets in the manufacturing sector has also declined steadily since 1978, and since 1980 has also remained below its 1973 level (See Figure 14). Declining real wages, accompanied by a declining rate of reture on assets, indicates a waning ability to compete in manufacturing while maintaining or increasing real incomes.

B. What Story Do the Data Tell?

Each of our five measures -- trade balances, market shares, technological capability, productivity growth, and real wage trends -- highlights a different aspect of the American competitive position. Together they suggest that many U.S. firms are having difficulty competing in world markets and that the American adjustment to a dramatically new world economy has been troubled. Against our strongest competitors, we are not maintaining our manufacturing position or our comparative advantage in high technology. The aggregate data from which some draw reassurance does show a natural flow of American resources out of low productivity industries into high technology sectors even as the trade deficit expands. These results disguise the transformation of segments of traditional labor-intensive sectors into capital intensive and technology intensive industries; it obscures the fact that in a range of industries in which competitive advantage rests on the organization of manufacturing the United States is struggling, and it hides the real challenge to our preeminence in advanced technology sectors. At the core of the problem lies both a loss of manufacturing preeminence -- the basic skills of how to make goods -- and a declining technological advantage on which competitive position in R and D based sectors rests.

Overall, we interpret the evidence to mean that the U.S. has reason to worry about its competitiveness in world markets. There are others, however, who look at the same or related evidence and conclude that there is no competitiveness problem and hence no need for a policy response. There are actually two distinct lines of argument behind this policy position, and it is important to clarify each of them and indicate where and why we disagree.

1. **Exchange Rate Readjustment** - a necessary, but not sufficient, solution

The first line of argument is that the U.S. trade deficit, which has grown especially dramatically in recent years, is primarily the result of developments in foreign exchange markets and has virtually nothing to do with the underlying ability of U.S. industry to compete.[23] According to this argument, foreign demand for dollar-denominated assets, fueled by high U.S. interest rates, a low U.S. inflation rate, and general optimism about the U.S. economy, has driven the value of the dollar so high that more and more U.S. producers have found themselves unable to compete on the basis of price in most international markets. There is much validity to this line of argument. Many economists believe that the current dollar rate is too high relative to the long-run capabilities

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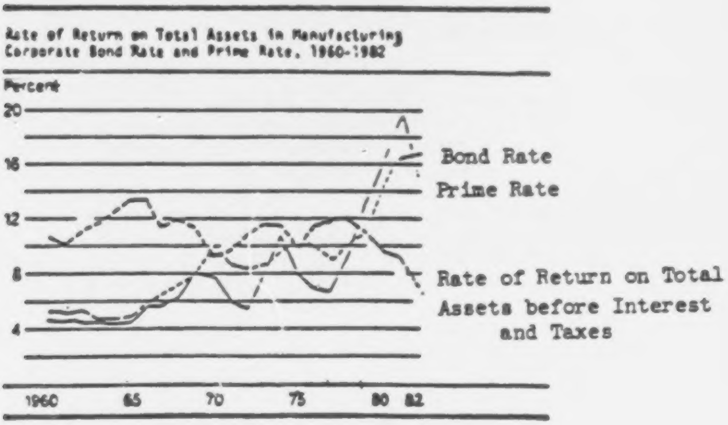
[23] For arguments along these lines see Robert Z. Lawrence, Can American Compete, Washington D.C., The Brookings Institution 1984 and Rachel McCulloch, "Trade Deficits, Industrial Competitiveness, and the Japanese," A Minority View from the President's Commission, July 1984.

Figure 14

Rate of Return on Total Assets in Manufacturing Corporate Bond Rate and Prime Rate, 1960-1982.



Sources: Federal Trade Commission, Quarterly Financial Report for Manufacturing Corporations, various issues. (profitability data)
Council of Economic Advisors, Economic Report of the President, February 1983. (bond and prime rate data)

From "National Strategies: Key to International Competition," Bruce R. Scott, in Scott and Lodge, eds., U.S. Competitiveness in the World Economy (Boston: Harvard Business School Press, 1985), p. 31.

of U.S. producers to compete on world markets. To believe otherwise, in the words of the 1984 Report of the Council of Economic Advisors, "would be to believe that U.S. producers can continue to be priced out of world markets and that the U.S. can continue to run 12-digit trade deficits indefinitely".[24] In this view, if the dollar begins to adjust to a more reasonable long-term level, some automatic improvement in the trade deficit is to be expected. Unfortunately, exchange rates can reflect financial flows more than trade flows for long periods of time. Consequently, the traditional assumption that a change in the trade balance will trigger a compensating change in the exchange rate cannot be used as a guide to policy. We must be prepared to compete in the face of a potential long-term exchange rate handicap that might -- according to the 1984 Report of the Council of Economic Advisors -- last as long as ten years.[25]

Recent developments suggest that even if the dollar rate falls, the trade deficit will not improve as dramatically as projections based on past history would suggest. Evidence of the structural deficit problem is apparent in a number of indicators. For example, during the last three years, foreigners have bought fewer U.S. exports when their own industrial production has risen than they did previously, and they have become more sensitive to the price of U.S. exports, cutting their purchases back more when U.S. prices have risen than they did previously. So far as our own imports are concerned, during the last three years a given increase in U.S. GNP has led to a bigger rise in imports than previously and a fall in foreign prices has also led to a bigger rise in American imports than previously.[26] Thus, there is no reason to anticipate that exchange rate adjustments alone will reverse the structural trade deficits in manufactured goods which have characterized U.S. economic performance since 1971. Even during the late 70's when the dollar was widely believed to be undervalued relative to its long-run level, the trade deficit in manufactured goods remained substantial. In other words, the problem predates the current valuation of the dollar.

A more fundamental criticism of the exchange rate explanation of U.S. competitiveness difficulties is that it asks the wrong question.[27] If the question confronting policy makers is simply "Can America compete in world markets?", then on one level the answer is yes; there is no competitiveness problem in the long run. As we remarked, many poor countries compete successfully on world markets with a surplus in their trade balance. They do so by competing as low-wage countries with low standards of living. If their rates of growth of productivity lag behind those of the rest of the world, they must accept a gradual fall in the value of their currency, their relative wages, and their relative standard of living. This form of competition, however, begs the real policy question of competitiveness in the U.S. -- "Can the U.S. compete in world markets with high wages and a high standard of living ?" If the U.S. must rely on successive depreciations of the dollar, as it did in the second half of the 1970's, to improve its trade performance, then the answer to this question is no. Indeed, the depreciations are nothing more than a reflection of the decline in the real underlying productivity advantage of the U.S. relative to that of its trading partners. And ultimately, both our international competitiveness and our ability to sustain the high standard of life to which we are committed depends on this productivity advantage.

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[24] Council of Economic Advisors, Economic Report of the President, February 1984, p.53.

[25] Ibid.

[26] These conclusions are drawn from Lester Thurow in a recent article entitled "Losing the Economic Race," The New York Review of Books, September 27, 1984, p.29.

[27] Thurow, op.cit.; the argument is also found in his upcoming book World Class: A Strategy for American Success, (Random House 1984).

A related issue is the high cost of regaining export sales lost because of a high priced dollar. In many industries, market share itself, once gained, confers cost advantages with respect to distribution and production. Accordingly, it may take U.S. firms considerable time to lose sales abroad when the dollar rises, but once lost, a market position is difficult and expensive to rebuild. In short, in many markets the U.S. may be in the process of ceding first-mover advantages to others.

2. The Service Fallacy

A next line of argument which questions the existence of a competitiveness problem in the U.S. focuses on the changing composition of U.S. exports between goods and services. According to this line of argument, the secular U.S. trade deficit in manufactured goods has been matched by a secular U.S. trade surplus in services, and these secular shifts in the composition of trade reflect a growing U.S. comparative advantage in services.[28] There are several problems with this line of reasoning. The first is that after deducting dividends, interest payments and other service payments on U.S. investments abroad, the actual volume of service exports remains very small relative to the volume of goods exports. Second, even services which are actually traded, such as computer software, tend to depend heavily on related manufactured products, so that if the U.S. loses market share in these products, it will also sooner or later lose market share in the services which these products support or generate. Third, the service sector cannot provide the kind of high productivity, high wage jobs on which the continued high standard of living of the U.S. economy depends.[29]

3. The Importance of Industrial Composition

A widely advanced argument suggests that although the U.S. may have a real competitiveness problem in several sectors, the nation retains its ability to compete in other industries. Overall, consequently, there is no need for policy concern. The weakness in this position is that it makes no attempt to assess the national economic importance, relative to any standard, of the industries in which the U.S. is encountering competitive difficulties. Counting the number of industries in which U.S. export shares are increasing or in which the net trade balance (exports - imports) has led to job creation or output growth, and then comparing this number to the number of industries in which U.S. export shares are decreasing or in which the net trade balance has led to job destruction and output decline does not by itself enable one to assess competitive issues. Yet this is one of the kinds of analysis used in two recent widely quoted studies of U.S. competitiveness.[38]

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[28] This argument is made in the 1984 Report of the Council of Economic Advisors.

[29] These three arguments are also made by Bruce Scott and George Lodge in their paper "U.S. Competitiveness in the World Economy: A Problem of Promises," Harvard Business School, September 1984.

Underlying this analysis is the implicit assumption that neither the composition of our domestic industrial structure nor the composition of our exports and imports matter very much. Baldly stated, the names and the characteristics of sectors encountering difficulties and sectors enjoying success in international competition are unimportant -- what matters only is the relative number of sectors falling into each group.

This widely held view is based on classical economic reasoning that the composition of a country's industrial structure and the commodity composition of its trade is of no importance. As long as the market system works well at home and as long as the international trading system is open, then market forces will resolve the compositional issues to yield the best possible welfare outcome. Under this scenario, a dollar's worth of exports or imports of orange juice, computers or semiconductors all have exactly the same implications for U.S. welfare. Therefore, whether the U.S. is losing world market shares in integrated circuits or gaining market share in textiles has no significance whatsoever. Moreover, according to this line of reasoning, whether the U.S. export and import mix is determined by market forces or by commercial policy abroad is not significant. For instance, if foreign governments subsidize aircraft exports to the U.S., this is unfortunate for the foreign nationals who end up subsidizing U.S. consumers, but it is of no significance to U.S. welfare, absent adjustment costs. U.S. consumers should gladly accept the subsidy, which is tantamount to foreign aid and producers should shift resources into other lines of business where resource costs permit profitable production.

In contrast to this reasoning, it is our opinion that the composition of the economy's exports and imports does matter, and that classical trade theory is an imperfect guide to policy as it fails to capture the essence of production activity and technology transfer. Because the issue is critical to the policy debate, we elaborate it here.

In those high technology industries on which future U.S. domestic and foreign economic performance rests, the standard models of economic analysis fail to capture the essence of technological development and economic transformation. Classical trade theory, upon which the classical policy prescriptions lie, is based on a vision of production derived from eighteenth century agriculture. However, industrial development in a modern advanced economy involves processes not captured by those earlier models. There are at least three processes which need to be recognized before sensible policy prescriptions can be advanced. One is the technological externality issue, the second is the cumulative nature of technological advance, and the third is the linkage issue.

First, high technology sectors, and those sectors reorganized by new technologies, exhibit special features that stem from the nature of the R & D process itself. Of special importance is the fact that the returns to R & D can only be appropriated to a limited extent by those who engage in it. When new products or processes are developed, it is extremely difficult to sell them or transmit them without allowing some information to slip into the public domain. Therefore, the returns to R & D accrue not only to the original innovative firm, but to imitators, users, and competitive suppliers. The result is a classic example of a market externality, in which the private return to the individual innovation is less than the total return to society generated by an R & D effort. Under these circumstances, there is no presumption that the market alone will support the level of R & D desirable from a national point of view.

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[38] See studies by the New York Stock Exchange, op.cit. and Can America Compete, op.cit.

Fundamentally, the externalities existing in high technology stem from the inability of an innovator to shield completely the benefits of his R & D effort from his competitors, domestic and foreign. Imitation can occur through many channels, including reverse engineering, and the pirating away of key scientists and engineers by competitors. Importantly, it is generally easier to imitate from the same geographical base as the innovator. For instance, an innovator in Silicon Valley is more likely to be first imitated locally because information passes along social and professional networks. Those networks are generally denser than they are internationally. Thus, domestic research and development yields external benefits to the economy, benefits beyond those represented by the product itself. The same is true with respect to the production of new goods and services. This means that the output and exports of an industry generating externalities transcends the dollar value of its sales.

Clearly, American welfare is harmed if foreign competition weakens American industries that generate sizable positive externalities, even if these externalities are not fully captured by U.S. firms. Of course, this loss can be minimized, if not entirely eliminated and possibly even reversed if U.S. firms are able to enjoy externalities generated by the foreign industry which has emerged to displace it. In this regard, it is important to point out a glaring asymmetry with respect to the facility with which U.S. and Japanese firms can capture externalities from each other's process innovation. Put differently, there is an asymmetry in the international flow of technological knowledge. The flow has been out from the United States. Much knowhow is tacit and is embodied in the minds of scientists and engineers, and not in secret formulas or books of blueprints which can be readily protected. Access to knowhow, therefore, depends importantly on personal contact and involvement. In this regard, the U.S. scientific and technological community is the most open in the world. Membership in a profession can provide access to ideas and knowhow, through personal contact, conferences, community contact, and other forums. While U.S. scientists and engineers generally enjoy reciprocal professional privileges abroad, there are important differences in the function of institutions in different nations, causing an asymmetry to emerge which usually works against U.S. interests. For instance, a far greater percentage of Japanese scientific and technological expertise resides in firms rather than universities, where it is more readily protected from both domestic and foreign rivals. Of even greater significance are differences in labor mobility. Employment of scientific and technological talent is far more stable in Japan than in the U.S., partly reflecting the life time employment system. An important source of technological diffusion and externalities in the U.S. is, of course, the phenomenon of "spinoffs', where key personnel with knowhow and experience will leave one enterprise in order to establish themselves in competition. The upshot, however, is that the externalities associated with R & D are greater in the U.S. than Japan, and moreover foreign firms are able to enjoy the spillover effects from U.S. innovation more readily than American firms can enjoy the spillovers from foreign innovation. Hence, the decline of a U.S.

industry generating significant positive externalities to the economy is a matter of concern.

Second, technological advance is often cumulative, with subsequent advances building on prior ones in an evolutionary fashion. Intimate knowledge gained from involvement in one round is often needed to participate in the next. In other words, the innovation process in one product or technology may have an important spillover effect in terms of the know-how needed to innovate in subsequent rounds of the competitive process. As a result of this effect, it may turn out to be difficult to be a bystander in the last round of technological advance and an active participant in the next simply because the innovation process involves learning by doing. This implies that if such seemingly temporary developments, as an overvalued exchange rate or the imposition of foreign subsidies, force a domestic firm to the sidelines in one round of international competition and technological development, that firm may find it very costly to reenter competitively at a later round.

Third, industries are often linked or interdependent. The growth of one sector creates markets for the products of others, and the coming into existence of an industry can often induce new industries, much like a new road induces new traffic flows. "The fact that a certain product is produced domestically is likely to result in efforts on the part of producers to propagate its further users -- the domestic availability of a product thus brings into being active forces that make for its utilization as input in new economic activities".[31] Such industries can be called strategic in the sense that a nation which desires to stay on the leading edge technologically, and desires to sustain high rates of productivity improvement, must assist their competitive development. There is little foundation in theory or evidence for believing that laissez-faire will produce the best outcomes, particularly when foreign governments are involved in influencing market outcomes. According to the view of the Council of Economic Advisors, if an industry is vital, "then the industries that rely on it will demand its output. The profit motive will ensure that this demand will be filled". This assumes perfect information and foresight on the part of entrepreneurs. However, a profit opportunity can not be exploited until it is perceived and understood. There is ample evidence that new applications for an innovation, applications quite different from those initially envisaged, once a new product or component is made readily available.

In sum, the composition of a nation's industrial output does matter, because the private returns to investment in some industries fall short of the social returns. It is generally R & D intensive industries that possess these characteristics, and government policy should be directed at stimulating the activity generating the externality -- namely research and development.

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[31] Hirschman, The Strategy of Economic Development, (Yale University Press, 1958), p.100.

IV. RESPONSES.

Our analysis suggests that a competitive challenge exists, and that it has its proximate source in the erosion of our manufacturing and technological preeminence. Both must and can be rebuilt by a combination of private initiative, and public policy responses directed at making markets work better. The international challenge makes it urgent that we respond in a way which signals a commitment to competitiveness. Each response can be justified in its own right on the grounds that it would make the market system work better and reinforce the base on which the private sector must build. There are those who may disagree with our assessment of the challenge or of its sources, but since the policies we propose will improve economic performance, prudence dictates that they be adopted. If our analysis is correct and the nation fails to act, the consequences will be grave. If we overstate the case, but adopt these responses, economic performance will in any case improve. There are three classes of responses we wish to consider: private initiatives, macro policy responses, and micro policy responses. Each category is briefly sketched below.

a) Private Initiatives

The practive and the teaching of management in America has tended to emphasize finance and marketing at the expense of manufacturing processes and innovation.[32] A refocusing of attention, prestige and incentive is in order at both our companies and our business schools. Those structures in companies, capital markets, and taxes that bias management in favor of short term profitability over long term performance must be changed. Labor must begin to play a larger and more positive role in productivity improvement, and business government relations must reflect a reality in which we can no longer enjoy the luxury of making policy without considering its impact on the competitiveness of American business.

b) Macroeconomic Policies

Macroeconomic policies which are fashioned so as to be sensitive to competitive issues are a necessary but not a sufficient solution. Steadier monetary and fiscal policy is needed to temper boom-bust cycles, real interest rates must be reduced to bring down the cost of capital and the value of the dollar, and tax policy must be refashioned to eliminate the bias in favor of consumption and non-manufacturing investments. In an interdependent world, the effects of monetary and fiscal policy on the competitive positions of American firms can not be ignored. The current policy mix risks generating what is called a "growth recession" -- an expansion in which unemployment rises because recovery fails to carry manufacturing along with it due to import competition. The problem is serious and delay costly.

c) Microeconomic Policies

Microeconomic policies -- policies other than monetary and fiscal which affect all firms or certain classes of firms -- need to focus on the augmentation and efficient deployment of high quality inputs. Three broad types can be identified: science and technology policy, antitrust and regulatory policy, and international trade policy.

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[32] See David Teece and Sidney Winter "The Limits of Neoclassical Theory in Management Education" American Economic Review, May 1984.

Science and technology: The critical inputs to an advanced industrial economy are in the schools, laboratories, and on the factory floor. Their development is greatly influenced by policy at all levels of govenment. In all countries, government plays a key role in building the basic economic infrastructure on which a competitive private sector depends. Historically, the American government played a key role in creating America's infrastructure in education, transportation, and research. Government helped to build the base of agricultural science and diffuse the know-how that helped make American agriculture the most productive in the world. It played, with great success, a similar role, though through different means, in aviation and aerospace.[33] A critical piece of our productive infrastructure is the national pool of basic and applied research and the information transmission system. Government continues to have a vital role to play in the development of this infrastructure. It must help to develop the national pool of researchers and research facitities, and maintain the systems and the incentives for the diffusion of new productive ideas throughout the economy. The indicators are troubling, showing R and D expenditures falling from levels which may have been too low in the first place. In formulating any program to encourage technologcal development and diffusion, it is important to recognize the advantages of pluralism and decentralized decision making. Experience in many countries has revealed how difficult it is to plan technologcal development because technological change, particularly of a major or radical sort, is marked by great uncertainty. Because important ideas and concepts come from quite unexpected sources, and are applied in quite unexpected ways, it would be a mistake for a program to rely too heavily on central direction.[34]

It is also important to realize the intimate connections between macro and innovation policy, illustrated by the fact that about 40% of innovation costs, on average, involve the construction of new plant and equipment.[35] As a result, macro policies which lower the cost of capital and encourage investment also encourage innovation and its rapid domestic diffusion.

The scientific and technological capabilities of a nation cannot be developed, however, unless there is a mathematically and technologically literate population from which firms can draw. The American higher educational structure is resource tight and lacks sufficient coupling to industry; the primary and secondary educational structures are in need of major organizational reform. Incentives must be aligned to promote and reward superior instruction. Unless changes in organization and incentives occur, additional funding to develop scientific and mathematical skills is unlikely to be efficacious at the primary and secondary levels. But the challenge can not be put aside. Educational reform is an important prerequisite for enhanced competitiveness.

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[33] See Richard Nelson (ed.) Government and Technical Progress (Pergamon, 1982 check).

[34] For a more complete treatment, see E. Mansfield, A. Romeo, M. Schwartz, D. Teece, S. Wagner, and P. Brach, Technology Transfer, Productivity, and Economic Policy, (New York: W.W. Norton, 1982).

[35] E. Mansfield, Rapoport, Schnee, Wagner, and Hamburger, Research and Innovation in the Modern Corporation, (New York: W.W. Norton, 1971).

Antitrust policy must also be revamped to focus on dynamic efficiency, as the role that static competition can play in improving the allocative efficiency of the economy is of trivial importance as compared to the role innovation can play in stimulating competitiveness. The losses from static inefficiency of the textbook variety can be easily overcome by more rapid technological progress and concomitant competitiveness. The Congress and the courts have yet to recognize such tradeoffs and American firms in technologically progressive industries have been handicapped on account of it. The competition that comes from the new commodity is so much more important than price competition amongst suppliers of undifferentiated commodities that it becomes a matter of comparative indifference whether the kind of competition fostered under existing antitrust laws functions more or less promptly.[36] Accordingly, if U.S. antitrust policy is to foster fundamental competitiveness, it needs to focus on dynamics rather than static issues, and international rather than domestic markets. The same principle holds for public policy more generally.

International trade policy. The market enhancing principle for policy extends to trade policy. Foreign markets that have been closed or restricted must be opened to American producers. While protection must be resisted at home and abroad, and multilateralism promoted over bilateralism, the U.S. must realize that in the real world of international industrial competition, governments matter. Administered trade is almost the rule rather than the exception. Policies that ignore or deny these new realities risk serious injury to U.S. interests.

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[36] Joseph Schumpeter, Capitalism, Socialism, and Democracy, (New York: Harper Brothers, 1942), p.83.

STATEMENT OF MICHAEL E. PORTER, PROFESSOR OF BUSINESS ADMINISTRATION, HARVARD BUSINESS SCHOOL, BEFORE THE UNITED STATES SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS, MARCH 26, 1987

Mr. Chairman, I am very privileged to have the opportunity to present testimony to this committee on a very important subject, the competitiveness of U.S. industry. I am delighted that this committee is holding these hearings, and I sincerely hope that they and the deliberations that follow will lead to important and bold new programs.

I speak to you today from a number of perspectives. First, I speak as a member of the President's Commission on Industrial Competitiveness (PCIC), appointed by President Reagan in 1983 to study the competitiveness of U.S. industry. I chaired the Strategy Committee, charged with providing an overall framework for the Commission's work. The Commission's recommendations have had a frustratingly long gestation period, but these hearings are an indication that the message is now reaching the Administration.

Second, I am a member of the Executive Committee of the Council on Competitiveness, a bi-partisan private sector group formed in December, 1986, to champion the economic competitiveness agenda in this country. I am not speaking on behalf of the Council today, although much of my testimony will reflect the Council's deliberations.

Third, I am a professor at the Harvard Business School and have spent my career studying not government but firms. My specialty is the competitive strategy of companies--how they can compete effectively both in domestic and international markets.

Finally, I have served as a strategic advisor to hundreds of companies in many industries, both in America and in most other leading industrial nations. My view from all this is that the problems you are discussing today are so urgent and so significant that I have devoted a considerable part of my attention in recent years to this agenda. Most recently, I have been engaged in a study of ten leading industrialized nations to seek an understanding of the role a nation plays in the competitive success of its firms in particular industries. Traditional notions of comparative advantage have been invalidated by modern technology and the globalization of competition. I have examined well over one hundred of the most competitive industries in these nations, with the aim of clarifying the new factors which promote sustained success.

I direct my brief comments today to two broad areas. First, I would like to provide my perspective on the overall issue of competitiveness. I believe strongly that the meaning of competitiveness is not well understood, that its causes are viewed too narrowly and that many proposed solutions start with false premises. Drawing on my work on the PCIC and my private sector experience and research, I would like to make a number of broader observations about the state of U.S. competitiveness and the factors which effect it.

Second, I would like to comment specifically on the array of bills before this committee as well as on the Omnibus Trade Bill and the House trade bill. These bills cover a wide but overlapping territory; I will identify the important subject areas covered in the bills and address each in my comments.

I. U.S. COMPETITIVENESS

What is Competitiveness?

I would like to begin my testimony by talking about what "competitiveness" means. This subject may seem obvious, but the bills before this committee indicate resoundingly that it is not. There are many definitions of "competitiveness" in use today, which tend to be distorted to suit the purposes of the user.

The President's Commission on Industrial Competitiveness spent a great deal of effort thinking about what competitiveness was. The definition we chose was the ability of a nation's industry, under free and fair market conditions, to produce goods and services which meet the tests of international markets, while maintaining or increasing the standard of living of its citizens. This means that American firms must be able to produce goods that are of the highest quality, are innovative, that embody the latest features, and that are produced with high levels of efficiency to minimize cost.

Why did we pick this definition? This definition of competitiveness is the one which both squares with economic logic and is directly linked to what we ultimately care about--meaningful, satisfying jobs, attractive wages, and a fair return on capital. If American firms in a broad array of industries can truly produce goods and services that meet the test of international markets, this will create good jobs, support high wages and provide adequate returns to capital.

The definition of competitiveness implicit in most of the bills before you is balanced trade. But competitiveness is not measured by the balance of trade. Many poor countries have balanced trade--countries we don't want to emulate. They have balanced trade because they sell natural resources and because wages are so low that labor-intensive goods are cheap enough to be exported, while consumers do not have enough money to buy many imports. The U.S. is on its way to balancing trade in this undesirable way--exporting price-sensitive commodities made more competitive by the low dollar but not being able to afford advanced Japanese and German goods.

The total amount of trade and the composition of trade (what we are selling abroad versus what we are buying from abroad) are more important than the balance of trade for the American standard of living. A high volume of both exports and imports is good because it means that we and other nations are specializing in things we do well. The composition of trade affects the nature of jobs and returns on capital. If we are selling unsophisticated price-sensitive goods and natural resource-intensive goods and buying advanced, sophisticated products, then America is not likely to be creating many high-paying jobs nor supporting a sustained rise in the standard of living.

I submit that if we focus on the PCIC's definition of "competitiveness"--producing goods and services that meet the test of international markets--we are likely to set good public policies. If we can do things that further this goal, the chances are high that as we move into the next century, America will be a highly competitive economy.

On the other hand, if we pick alternative definitions of competitiveness, like balanced trade for its own sake or keeping out imports, the policies we adopt are, I submit, more likely to reduce our ultimate competitiveness than to increase it. Fundamentally, unless our industry can produce goods and services that meet the test of international markets, our economy will move in the wrong direction no matter what we do to control trade.

The Competitiveness of American Industry

The U.S. faces a serious industrial competitiveness problem. It is not a new problem. It is at least fifteen to twenty years old, as many data series on trade, technology, capital investment and wages clearly illustrate.

America's competitiveness problem is a broad-based problem. It is not just a problem of mature industries. It is a problem that afflicts agriculture, it afflicts basic industries, it afflicts financial services, it afflicts high tech. One of our largest sectoral trade deficits this year is going to be in electronics. The competitiveness problem runs from robots to pianos.

The competitiveness problem facing the U.S. is a long-term structural problem. It is not a function merely of macroeconomic factors such as capital costs or the value of the dollar. Our trade deficits began in 1971, sixteen years ago. The trade deficit has been rising ever since despite the fact that the dollar was undervalued and falling in the latter part of the 1970s. The huge shift in exchange rates that we have seen in the last few years has not made much of a dent in our trade deficits with Germany and Japan.

The single best indicator of our competitiveness, in my judgment, is productivity growth measured in revenue terms. This indicator shows quite clearly that the output that our workers and our managers are able to produce per unit of effort has not been growing nearly as fast as that of other nations. This is a function of both the prices our products can command as well as how much human input it takes to produce them. We are simply not productive enough to meet the test of international markets in a growing number of industries.

This problem of international competitiveness is already placing severe strains on the standard of living of Americans. It is not something that is going to affect us in the future; it is affecting us now. Most of you, I am sure, are aware that real wages have been falling in the United States for more than a decade. In real terms, the average weekly wage is at early 1960s levels (see Chart 1). Real family income has declined about 5 percent since 1973 regardless of the number of income earners.

The U.S. is now in the process of adjusting to a lower standard of living. Every morning we open the paper and see new evidence of yet another industry or yet another group of workers or managers who is reducing its standard of living. Fundamentally, the reason is that we are not competitive. We are not meeting the test of international markets. Our products are not good enough, our features are not advanced enough and our factories are not efficient enough.

U.S. public policy and U.S public attitudes towards competitiveness have been lulled by a good deal of false good news in the last few years. There is satisfaction about low inflation. But every advanced nation has low inflation. Inflation is low because there is excess capacity, because oil prices have fallen dramatically, and because U.S. industries have not been able to sustain price increases against tough foreign rivals.

Interest rates have fallen, but interest rates have fallen in every advanced country. They reflect capital market factors and not a competitive economy.

The stock market is hitting records every day, it seems. When the President's Commission report was issued a few years ago, with its story about the serious competitiveness problem facing the U.S., the stock market hit a new high. Again, when the Council on Competitiveness was officially announced last December, that very day the stock market hit another new high.

The stock market is not telling us anything about our competitiveness. It is telling us that the alternative investments are lousy. Investors cannot earn much on bonds. Real estate in America is overbuilt. The only alternative is to put money in the stock market. The stock market is such a small portion of the overall pool of invested capital that relatively small portfolio adjustments in its direction will boost the stock market substantially. Since foreign investors face the same problem, foreign stock markets are less developed than ours and because the dollar is cheap, foreign money is coming into the U.S. stock market as well.

There is also much made of the fact that we have experienced a very long period without a recession. Yet the data show that economic growth has been primarily consumer led, or more precisely, led by consumer credit. It has been financed not by creating wealth, but by borrowing wealth.

Finally, the U.S. economy has created many of new jobs. Therefore, it is said, we must have a competitive economy. It is important to recognize that wages are falling even as new jobs are being created.

More importantly, however, we must look carefully at what kind of jobs have been created in our country in the past five to ten years. If we analyze them carefully, we see that perhaps 3 million of them (about one-third) are in retailing. They are the result of the growth of retail stores to service the boom of consumer spending that has been fueled by borrowing. Is this a sign of a competitive economy? Not really.

There are some good jobs being created, jobs in healthy competitive manufacturing and service industries. But most of the jobs are in fields like retailing, wholesaling and construction which do not reflect a competitive economy. They are not in industries exposed to international competition.

We have been lulled in our response to the competitiveness problem in America by these false signals of well being. It has been very hard to see the underlying issues through all the fog covering our economic landscape. We have also been lulled by our history of preeminence. Most Americans find it hard to believe that the nation is not the economic leader across the board. Finally, we have been lulled by the hope that simple solutions such as lowering the value of the dollar would solve what was seen by many (including the Administration) as a short-term problem--unfortunately, the short term has turned into the long term.

As a counterpoint to the U.S. response to the competitiveness problem, you might be interested in how West Germany and Japan have responded to circumstances that are arguably much less threatening than ours. Germany almost had a trade deficit in the early 1980s. The experience provoked an intense national debate on economic competitiveness the very year it happened. It was featured in the media for months and months. Significant steps were taken. Japan is now in the midst of a period of intense national discussion on competitiveness, which began immediately after the yen started rising. The response to the yen revaluation has been rapid and remarkable already. In the United States, our first trade deficit of the twentieth century occurred in 1971. It is only today--sixteen years later--that we are even beginning to take serious steps to deal with the competitiveness problem.

The Determinants of U.S. Competitiveness

The causes of America's competitiveness problem are systemic and multifaceted. They are not just the result of one or two factors. The President's Commission identified four broad areas at the root of the problem:

- Capital resources. A function of inadequate investment, a low savings rate, and a biased tax system.
- Technological position. A function of inadequate technological progress in products and manufacturing technologies due to low R&D spending and other causes.
- Human resources. Due to the fact that the U.S. no longer has the best educated, best trained, best motivated workers and managers.
- International trade and marketing. A function of a flawed international trading structure, ineffective trade policies, and inadequate attention paid to exporting by U.S. firms.

Based on my research and experience, I would add a fifth important determinant of competitiveness:

- Health of the competitive system. A function of the strength of competitive motivation and initiative, the presence or absence of regulations that impede or distort market forces, and the effectiveness of antitrust policy is preventing anticompetitive behavior.[1]

The U.S. has always ranked high as a vibrant, competitive economy, one of the essential reasons for our historical strength. Although some regulatory distortions to market forces have been removed in recent years, a cause for optimism, I believe there is cause for concern about the health of competition in America. In particular, some of the proposals under the banner of competitiveness represent a threat to both domestic and international competition as I will explain further below.

It should be clear that the cause of the competitiveness problem is not just the dollar. The response of trade to the dollar is highly controversial. Many economists now believe that a falling dollar, even in theory, should not reduce the trade deficit.

America's competitiveness problem is not just a trade problem. It is tempting to blame our competitiveness problems on unfair trade practices by foreign nations. However, if we see the problem this way, we will be perhaps five to ten years out of date. Germany does not protect its markets. Most serious forms of protection in Japan, believe it or not, were gone as much as a decade ago.

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[1] It is important to note that the Commission's report dealt with some of the issues raised by this area, but under other headings. Its importance in my judgment justifies separate treatment.

Unfair trade practices remain, and strong policies should be put in place to deal with, as I will discuss. But we cannot use protection abroad as an excuse to avoid dealing with problems at home. All this does is reduce our standard of living. A falling dollar and falling real incomes are not desirable solutions to the competitiveness problem. Unless we can improve productivity growth, unless our industries can meet the test of international markets, the dollar will continue falling indefinitely, and real wages will continue sliding. Britain, for example, has seen a slow decline in relative living standards for decades. That is not the way we want to solve our competitiveness problem.

This Committee, because of its mandate and the bills before it, runs the risks of seeing the competitiveness problem as only a trade problem or a problem of organization. This will lead to bad policy, where the cure is worse than the disease.

Government's Role

The competitiveness problem cannot be solved by government. The private sector is on the front line of international competition, and it must utlimately take the steps necessary to regain competitiveness. This includes bolstering the rate of innovation and how effectively they are commercialized, upgrading facilities, introducing modern manufacturing technology, improving labor-management relations, bolstering employee skills and abilities and doing a much better job in international marketing. The private sector, for its part, is beginning to move, although much more needs to be done.

Government has an important and legitimate role in enhancing competitiveness as well. Government plays an inevitable role in shaping the environment in which all firms compete, through fiscal and monetary policy, through its role in education, through policies towards science and technology, through its role in establishing and implementing trade laws, and through policies that affect the health of the competitive system.

In an advanced, broadly-based economy like the U.S., the proper role of government is to improve the environment for all industry rather than intervene in particular sectors. It is tempting to look at the history of Japanese and Korean targeting, in the form of special treatment and significant subsidies for key systems, and conclude that this approach is necessary for the U.S. Yet I believe that the evidence is compelling that such a policy is unnecessary and would not work here. For one thing, advanced and successful countries such as Germany, Switzerland, Sweden and Italy practice little or no targeting. In addition, Japan has cut back substantially on subsidies and protection, the guts of targeting, as its economy has become broader and more advanced. Government policymakers simply cannot substitute for market forces in a diverse economy. Even in Korea, targeting has failed as many or more times as it has succeeded, and the Korean government is cutting back drastically on the practice.

An effective government program to enhance U.S. competitiveness must contain significant policy changes in all five areas I outlined above. Of all of them, I believe that government's greatest long-term leverage is in improving the quality of human resources and nurturing the health of the competitive system, followed by efforts to stimulate technological development. I rank the first two highest because improvements in these areas will have a great impact on the third, quite apart from policies narrowly directed at science and technology. Trade policy and policies toward capital and exchange rates have an important impact, but only in tandem with changes in the other areas.

II. LEGISLATIVE PROPOSALS BEFORE THIS COMMITTEE

The Committee is considering a wide range of legislative proposals bearing in some way on competitiveness, including S.186, S.259, S.330, S.374, S.489, and S.539. Most of the bills focus primarily on trade policy and related matters, although sections touch on each of the five areas outlined earlier.

In my comments on these proposals, I will first address the first four titles of the President's Competitiveness Initiative--the bill with broadest scope. These deal with human resources, science and technology and regulatory reform to improve competition.

I will then turn to proposals regarding trade. In the various bills, there are five important aspects of trade policy addressed:

- trade law reform
- creation of a Department of Trade
- other organizational changes in trade policy formulation and implementations
- proposals to improve trading information and other export promotional matters
- trade impact statements

I will discuss each in turn, treating the bills or portions of bills that deal with them as a group.

PRESIDENT'S COMPETITIVENESS INITIATIVE

S.539 contains a series of measures constituting the President's Competitiveness Initiative, introduced in his State of the Union Address and highlighted in the FY 1988 budget. I welcome this initiative, as the first significant step this Administration has taken to make competitiveness a national priority. The fact that many of the proposals were contained in the report of the President's Commission on Industrial Competitiveness is heartening. Less satisfactory is the fact that two full years have gone by since the Commission's report was issued.

The bill proposes a number of useful steps, particularly in the areas of technology and trade. Yet it is largely incremental instead of bold, is silent in many important areas and contains some questionable proposals as well as others that are inconsistent with other Administration policy. The Administration has had little sense of urgency about competitiveness, and this bill must be viewed as more defensive than a sign of fundamentally new priorities. I urge the Administration to make this bill the beginning rather than the end of its competitiveness program.

I will discuss Titles I through IV under the headings of human resources, science and technology and regulatory reform. Title V will be discussed along with the other proposals for trade law reform in the next section.

Human Resources (Title I)

The new Worker Readjustment Act is a constructive program to aid workers displaced by foreign competition. In addition, the new initiative aimed at recipients of Aid to Families with Dependent Children focuses much needed attention on helping citizens low on the economic ladder to upgrade their skills and capabilities. This focus on the disadvantaged and on basic skills ranks as one of the most important priorities facing America in coming decades. Given demographic changes, the number of new employees entering the work force is falling at the same time as the skill requirements of jobs are rising. National output is the product of the number of workers and their average productivity. In the past decade, a growing number of workers (despite low productivity growth) has powered economic growth. In order to sustain future economic growth, we must improve productivity per worker. There is also a pressing need to mobilize the large group of unemployed persons into productive workers to fill needed jobs and reduce the deadweight cost of supporting them.

The President's proposals are constructive but come up short in a number of areas. First, the spending boost in the designated programs is relatively small compared to the size of the problem. The number of unemployed without basic skills not receiving welfare is estimated at six million, and the number of illiterate welfare recipients is even higher. Every year over two million school dropouts and immigrants without basic skills enter the pool. The second problem with the President's proposal belies the fact that it fails to tackle the inadequate delivery system for providing high-quality education and training in basic skills and in vocations. The ABE program, for example, has a high dropout rate and inadequate capacity in urban areas. In vocational education, the President's budget cuts $900 million.

The President's proposal also fails to address the problem of human resources development in its broader context. It is silent on primary and secondary education, perhaps because the Administration sees no federal role. It is also silent on higher education, where shortages of teachers and modern equipment are severe, and where inadequate numbers of scientists and engineers are graduating. It cuts $2.5 billion more out of student aid funds. Apparently, even lower middle class Americans are supposed to be able to afford the well over $10,000 per year that it costs to go to a top university.

Overall, the President's proposal goes very little of the way towards reversing the sharp drop in investment in human capital that has taken place in the U.S. since he took office (see Chart II). Overall, the Reagan budget cuts the Department of Education's current $19.5 billion budget by about $5.5 billion. Education is absorbing about 30 percent of the total budgetary cuts of about $19 billion. This is simply unacceptable in the area of potentially greatest long-term leverages for American competitiveness. While recent Secretaries of Education have had some good ideas, they have not received the mandate and financial backing necessary to renew America's education and training system.

S.374, which deals with some educational matters, hits an area missed in the President's program with its proposals in teacher training. The missing link in this generally constructive legislation is a process to decide which subjects should be the focus of grants. Public sector decisions in this regard are notably bad, because of lack of information about the needs of industry. Some private sector advice should be built into the process.

Science and Technology (Titles II and III)

Titles II and III are the parts of the President's Initiative which I support the most. Their goals are appropriate ones. The choice of the National Science Foundation as the prime agency for implementation in Title II is, in my judgement, the right one. Once again, though, the spending increases are modest.

The major concern with Title II is its failure to deal with an area the PCIC found important, the productivity of the massive Federal spending on R&D in government laboratories. The Commission found that this investment is not yielding an adequate return because of poor coordination and because it is poorly linked to the private sector.

Title III includes a series of useful steps towards the non-controversial goal of better protecting intellectual property. This is an area of great importance to U.S. competitiveness. Given the mix of industries in which the U.S. is or is likely to be internationally successful, intellectual property rights issues loom large. If other nations fail to live by established international rules or block the establishment of new rules in areas such as software, circuit designs and proprietary techniques, U.S. firms will be represent a disproportionate number of the victims.

Regulatory Reform (Title IV)

Title IV is more directed at the Administration's goal of regulatory relief than to important actions to improve competitiveness. While some of the proposals are sound, others raise serious questions because they may undermine rather than strengthen the health of the competitive system.

The first is in the area of antitrust policy towards mergers. The Administration has taken a laissez-faire view towards mergers. The basic philosophy is that mergers promote efficiency and that competitors should be allowed to combine since markets are global. Judged against historical standards, the operative rule that seems to have been guiding this Administration's merger policy is that anything goes. As a result, we have seen mergers among important competitors in many industries, even in industries that are concentrated. The mergers challenged have been few and far between.

This policy has unleashed a scramble in many U.S. industries to buy or merge with their competitors instead of out-compete them. There is little evidence that the result has been more competitive firms. To the contrary, recent evidence on mergers suggests that many fail. My research also shows clearly that the industries in which a nation is the most competitive are characterized by vigorous domestic competition. Mergers among competitors are extremely rare in countries such as Germany, Japan and Korea.

I am strongly opposed to further relaxation of the nation's merger laws. I also have growing misgivings about the broader set of forces at work today with the potential to undermine the health of the competitive system in this country. Cooperative research, for example, has been embraced as a solution to the nation's technological problems. A number of trade bills propose formal councils in which industry representatives would work together to formulate plans. Other bills create forces the likelihood that we will se bilateral agreements over trade in specific sectors in a wide range of industries (see below).

None of these proposals is inevitably bad for competition. But we face a serious risk of misinterpreting the experience of other nations in ways that will undermine the vigor of our competitive system. Americans hear a lot about cooperation in Japan. They hear less about the vigorous and even cutthroat domestic rivalry among the many Japanese firms that crowd every important industry from cars to robots to cameras. Americans hear a lot about the cooperative research ventures that have supposedly built Japan's technological strength. They hear less about the fact that many Japanese companies participate in these ventures grudgingly, do not assign their best personnel to them, and spend ten times more money on their own private research on the same topics in the hopes of getting an edge. Cooperation is far outweighed by competition.

As we seek areas of useful cooperation, America must be very sure that the result is not less competition. The experience of other nations is that cooperation on some limited dimensions can be beneficial, particularly between labor and management. However, cooperation is no panacea. Cooperative R&D, for example, is the exception among successful nations and not the rule. Moreover, cooperation is only beneficial if there _also_ is rigorous competition in prices, products, processes and the other essential determinants of competitive success. Mergers are not the way to stimulate competition in most industries. Bilateral agreements in specific sectors, such as in semiconductors and machine tools, have potentially disastrous consequences for both domestic and international competition.

TRADE POLICY REFORM

Title V of the President's Initiative proposes a series of measures to improve the effectiveness of U.S. trade, many of which are largely uncontroversial. Most of the steps streamline and toughen somewhat the trade laws. Many of the steps are long overdue. The issue in the President's program on trade law reform is whether it goes far enough.

Title V also omits two important areas of trade policy which weaken its impact. The first is the organizational structure through which the U.S. formulates and implements its trade policy. Our current system is confused and arguably ineffective. Authority is overlapping and unclear among a number of agencies and congressional committees. The experience, continuity and professionalism of staff is below that of other nations. There is a pressing need to unify the implementation of trade policy and elevate its status and importance. Some of the other bills before the committee deal with ways of doing this that I will comment on below.

The second flaw in the Administration's approach to trade is that it does little to promote the development of exports by American companies. There are a number of useful proposals for doing so, some of which are discussed below.

Trade Law Reform

Bilateral and Sector-specific Systems for Balancing Trade. Title V of the President's initiative avoids the approach taken by a number of proposals advanced in recent years to deal with unfair trading practices by foreign nations, which involve quantitative targets for balancing trade with certain nations and imposing sanctions on them when improvement does not fall within specified bounds. Some proposals (e.g., S.259) leave discretionary the actions the President will take to meet the goals. Others (the original House bill) require some automatic response in terms of tariffs or other penalties.

I believe that the whole approach of seeking balance in bilateral trade in this way is seriously wrong, especially if there are automatic penalties. The reasons are as follows:

(1) There is no sound economic reason that trade should be balanced with any particular country. The pattern of trade with a country will depend on the patters of relative advantage across industries with that particular country. The U.S. itself had (and still has in a few cases) sustained trade surpluses with many countries for decades--should

these countries restrict U.S. trade? That would be what this sort of proposal implies.

(2) Bilateral, quantitative approaches operate under the implicit assumption that the reasons for a U.S. bilateral trade deficit reside solely or primarily in unfair trading practices and foreign industrial policy. As I have discussed above, this is a flawed assumption.

(3) Bilateral, quantitative approaches deal with the symptoms and not the causes of the problem even if unfair trade practices are significant. Some nations indeed engage in unfair trade practices, but the solution is to attack the unfair practices directly, through improving the U.S. trade laws, the way U.S. law is implemented and the scope and context of the international agreements covering trade. The quantitative approaches have arisen partly out of frustration that U.S. trade policy has failed to make a difference using conventional methods. But there are a wide range of ways to improve the situation that do not run the severe risks that quantitative targets do, some of which are covered in the bills before this Committee.

(4) Quantitative targets are highly likely to be a cure worse than the disease. They will tend to lessen competition, take the pressure off U.S. firms to innovate and change, and promote government intervention. Realistically, the result of such targets will be a proliferation of export quota schemes, like those in cars, TV sets, and machine tools, as well as "restraint" agreements such as in semiconductors. These sort of agreements have already been and represent a serious threat to both international and domestic competition. They cost the American consumer and industrial buyer dearly, and none has led to a revitalized U.S. industry. The result of the

bilateral quotas will be high profits for U.S. (and foreign) firms, but not U.S. competitiveness.

Of equal concern is trade legislation addressed to specific sectors. I agree strongly with Secretary Baker who has stated that sector-specific approaches are the wrong way to go. The Secretary cites the risks of inciting a trade war. I would add the equally serious risk that a sector-specific approach will lead to the same proliferation of bilateral trade agreements on individual commodities that I discussed earlier, with the same adverse consequences for both domestic and international competition.

Proof of Injury and Relief in Specific Sectors (Section 201). S.259 contains provisions relating to the definition of injury by foreign competition. The conditions include (1) decline in sales or market share, (2) soaring inventory, (3) downward trends in production, profits and wages, (4) coordinated foreign government actions, (5) and affirmative antidumping or countervailing duty finding, (6) inability of domestic firms to maintain R&D, and 7) diversion.

Items (4), (5) and (7) are legitimate signs of unfair trade. The other measures may indicate the results of unfair trade, but may instead be indications of uncompetitiveness by U.S. firms due to lack of effort, innovation or commitment. Legislation should require that (4), (5) or (7) are present as a condition for whether relief is to be given. I also agree with the Administration's position that relief should be granted only if there is promise of the industry becoming competitive again. The other conditions should merely confirm that injury has resulted. Otherwise, there is a severe risk that the trade laws will be used by some U.S. firms as a crutch with which to avoid facing up to international competition.

Creation of a Department of Trade (S.259) or Department of Trade and Industry (S.330). S.259 proposes the creation of a Department of Trade. This bill has laudable goals. However, the approach is flawed in several respects. The first and most important is that, like most competitiveness initiatives, it focuses exclusively on trade as the problem. The most visible manifestation of this is that the Department of Commerce remains intact but gives up its trade-related functions to the new Department.

In today's international markets, domestic commerce, trade, inbound and outbound foreign investment and alliances with foreign firms cannot be separated. They are all interrelated when companies set strategy. Intelligent policy to improve U.S. competitiveness must deal with them simultaneously. Moreover, monetary and fiscal policy are increasingly intertwined with trade issues. If the goal is sound policy, the Departments of Trade and Commerce must be combined.

S.330 more fully integrates the Department of Commerce and the Office of the Special Trade Representative and thus is more appropriate in my judgment. However, in contrast to S.259, it fails to recognize the link between certain functions of the Department of Agriculture and the new Department. U.S. trade policy will not be fully effective if agricultural trade negotiations are not integrated with broader negotiations. S.330 also transfers certain functions in minority business development and economic development to other departments, which has little logical justification.

I also have misgivings about the portions of both bills referring to industry sector competitiveness councils (S.330) and plan development groups (S.259). While the new Department must develop expertise in each important industry and should rely heavily on advisory groups from labor, academia and industry, the council process as outlined is fraught with danger. It is likely to lessen competition and create pressures for government intervention without any clear offsetting gain that could not be achieved in other ways. Giving the councils formal legal status and a broad mandate is unnecessary. The same is true of the plan development groups.

Both bills to reorganize the Executive Branch also fail to apply the same philosophy to Congress. Congress needs to get its own house in order with respect to competition. In the Senate, at least six committees have significant responsibilities for competitiveness matters, many of which are overlapping. In the House, the Ways and Means Committee has primary jurisdiction over the trade bill, but at least five other committees will consider it as well. Competitiveness represents a new synthesis of previously more disconnected areas, linked by the shifting competitive position of the U.S. and the growing independence of the world economy. Congress needs to realign itself to reflect the increasing integration of policy formation in today's international economy.

Other Organizational Changes (S.259, S.489, S.374)

In addition to or instead of reorganizing the existing cabinet level departments concerned with trade, a number of bills proposed other organizational changes. S.259 and S.489 propose cabinet level committees within the Executive Office of the President (the Trade Policy Committee and National Trade Council, respectively). The membership of these bodies is largely the same in both bills, and their purpose is to create high level attention to trade issues.

These bodies reflect the narrow orientation of many legislative proposals toward trade instead of the broader question of economic competitiveness. Policies to improve competitiveness must integrate trade policy, science policy, and other fields described above. Creating a body with statutory motivation for only trade alone may boost the stature of trade in the short run but would complicate economic policy in the long run. What is necessary is a body that addresses the broad issue of economic policy, integrating domestic and international considerations and placing primary stress on U.S. competitiveness.

The problem, however, is less the organizational unit than how it is used and what its focus is. This Administration has had such councils, but their orientation and focus has not been weighted towards competitiveness. In my judgment, the Cabinet department reorganizations discussed above are much more significant and much more likely to be effective than Executive Office reorganizations, because they will create a stronger and potentially prestigious advocate for U.S. policy with broad authority and resources.

S.374 takes a different tack in dealing with the organization question. It leaves the existing Executive Branch organization intact, but adds a new entity in the form of the Council on Industrial Competitiveness. This new body, in my view, is both unnecessary and likely to complicate an already overly complex and ineffective policymaking environment. I believe that a better organized Congress and Executive Branch involving private sector advisory groups is a far better solution.

Proposals to Improve Trade Information (S.186, S.489, S.374)

Both S.186 and S.489 contain proposals aimed at significantly enhancing the quality of information available to U.S. firms regarding international markets an competitive conditions.[2] A subsidiary benefits of both proposals would be a better information base for public policy formulation. The purpose of these proposals is laudable--many firms lack information on foreign markets and competition and improving the base of information is a legitimate role for government.

While their goals are laudable, both proposals are too narrowly based and lack a clear orientation to user firms. Both proposals are too narrowly oriented towards trade information. As I have stated earlier, trade is only one dimension of international competition. S.186 omits information on foreign investment of U.S. firms as will as technical and patent information so crucial to modern international competition. S.186 also does not stress detailed market information by country, vital to potential exporters. S.186 appear to be most useful as a data base for U.S. policy formulation, not as a means of helping U.S. exporters.

S.489 contemplates the gathering of a range of information that will be more useful to U.S. companies in international competition, including detailed information about individual countries as well as technical information. It too, however, is too narrowly oriented toward trade and needs to encompass information on inbound and outbound foreign investment, as well as data bearing on alliances with foreign companies and the foreign laws governing them. S.347, which proposes greater foreign technology assessment (Title I) is too narrow and should be integrated into a broader approach.

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[2] S.259 also contains a brief proposal that is less comprehensive than either S.186 and S.489. My evaluation of it follows the discussion below.

The major flaw of all these proposals, however, is they are piecemeal approaches to the broader problem of export promotion and place too little emphasis on how to promote the use of the information by U.S. firms. Although the information described can be useful to many U.S. firms, the delivery system by which the information is provided is as or more important than the information itself. Particularly small and medium sized firms need coaching and counseling in both seeking out such information as well as using it in practice. They need someone who can help them find the relevant information as well as someone who can advise them and they make initial efforts abroad. Particularly valuable is advice overseas, when businesspeople are seeking to establish contacts and overcome cultural and regulatory hurdles. JETRO, Japan's organization to promote foreign trade and investment, is a good example of the type of organization that has had a significant impact through providing such hands-on advice. Some foreign countries have also established data bases which make it possible for a firm seeking to do business in a foreign country to find a non-competing firm to contact for advice. Such an approach is being used in Baden-Wurtenberg, West Germany, for example.

Both proposals for Trade Data Bank are not user oriented, but data-oriented. If such an information bank is to be valuable, it must be a user-oriented body. I would recommend that it be established as a quasi-independent agency, with a board of directors, including private sector representatives. It must have field offices in major cities to promote usage, and a referral service to experienced non-competitive U.S. firms. It also needs some foreign field office system to provide hands-on advice abroad. In this regard, the Trade Data Bank idea needs to be linked with the foreign commercial service now part of the State department. This potential source of advice overseas to U.S. firms has not been particularly effective because of lack of priority and too frequent rotation of personnel.[3] The Trade Data Bank concept also needs to be linked to the Export-Import bank, with responsibility for direct trade financing as well as in stimulating private sector trade financing.

America needs a coherent export promotion program, in which information plays one important part. Because they deal with information separately, these proposals do not live up to their potential. Because they are not user-oriented, moreover, both of these proposals are likely to fall well short of even their narrower goals.

Trade Impact Statements (S.489)

The proposal aims to require that all legislation be drafted with a consideration of its impact on trade. U.S. policy has all too often ignored or sacrificed an adverse impact on competitiveness in favor of other goals, a legacy of past U.S. economic dominance.

Trade Impact Statements are best viewed as a transitional device to heighten concern with competitiveness until it has become more firmly established as a national priority. As such, they are potentially a useful step. However, the statements themselves will not ensure that even one decision places more weight on competitiveness unless the Executive Branch and Congress truly elevate its priority. In this regard, the organizational changes in both the Executive Branch and Congress described above will be as or more important.

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[3] Some of the provisions of S.259 are a start at improving the effectiveness of the State Department system, as well as dealing with financing. However, S.259 is more a grab bag than a clear program.

CONCLUSION

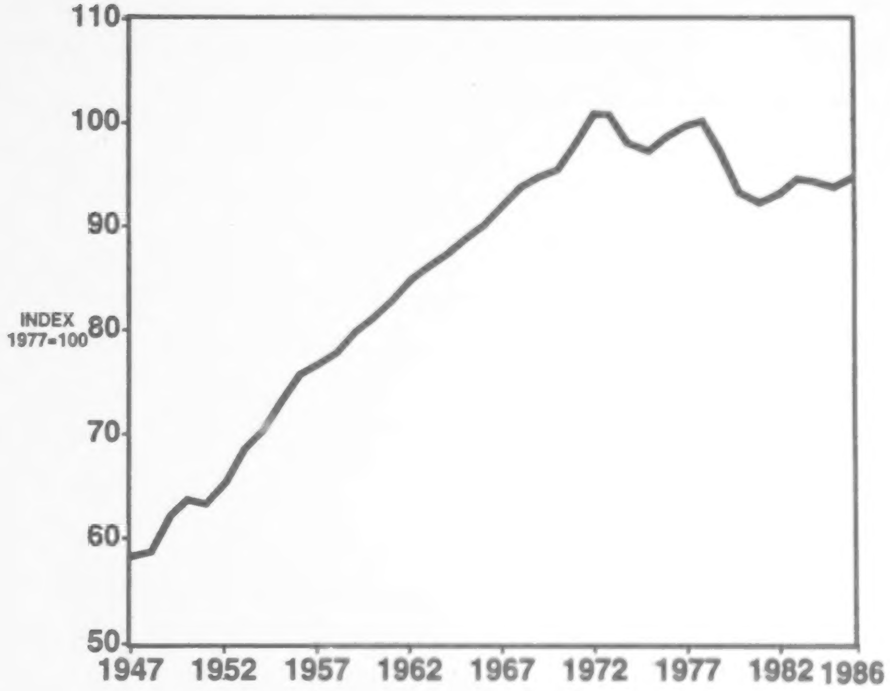
America is well on its way to the recognition that we have a competitiveness problem. While the existence of the problem was debated as recently as a year ago, today the emphasis has shifted to solutions. Many of the proposed solutions still frame the issue too narrowly--as a trade problem and not as a broader competitiveness problem. Only by attacking the various dimensions of the competitiveness problem simultaneously will America's future economic prosperity be assured.

It is time to take a major step forward in the reform of trade policy, as one important element of such a broader program. An effective new trade policy will combine trade law reform, changes in the organizational mechanisms through which we formulate and implement trade policy, and systematic efforts to create a better environment for U.S. exporters.

Trade policy reform carries two important risks. The first is that we waste our effort and resources on piecemeal or ineffective new programs and organizations. The more serious risk is that modifications in the trade laws will unwittingly undermine the competitive system as well as provoke destructive retaliation by other nations. Americans must resist the temptation to seek a scapegoat for the current difficulties, but rather craft a set of laws and institutions that both redress unfair practices as well as still squarely place the burden on American firms to innovate, to streamline, and to take risk.

U.S. COMPETITIVENESS–REAL WAGES

CHART 1
INDEX OF ADJUSTED HOURLY EARNINGS FOR ALL PRIVATE NON–AGRICULTURAL ESTABLISHMENTS, 1977 DOLLARS, 1947–1986



Source: Department of Labor, Bureau of Labor Statistics

MEP/Rsch/Comp3 5-13-86

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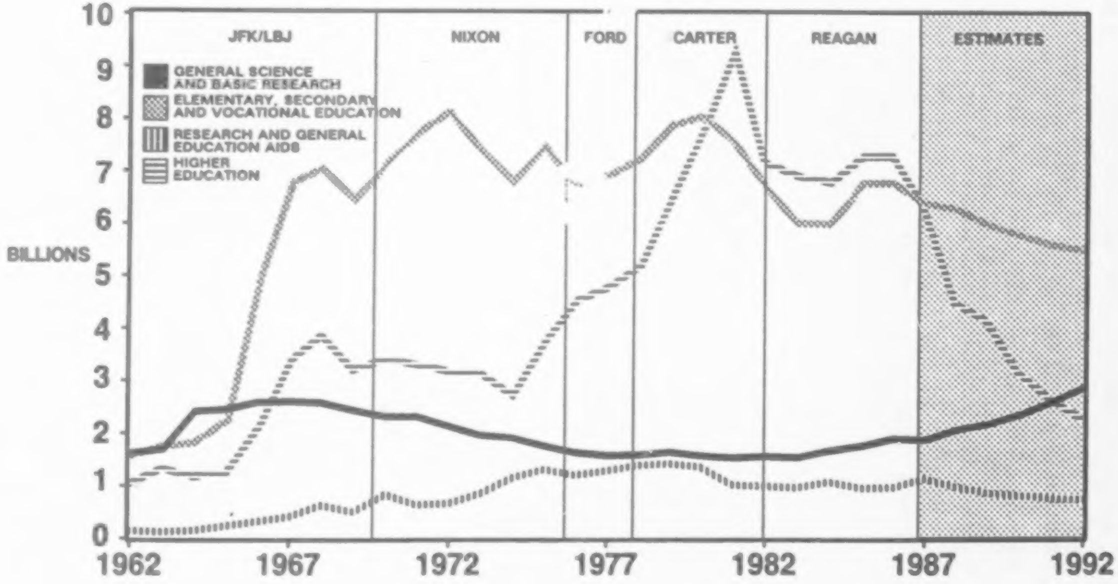
U.S. COMPETITIVENESS–GOVERNMENT SPENDING

CHART 2

OUTLAYS FOR SUBFUNCTIONS WHICH CONTRIBUTE TO GENERAL INTELLECTUAL DEVELOPMENT IN BILLIONS OF 1982 DOLLARS, 1962–1992



Source: Office of Management and Budget

MEP/Resh/Comp 5-20-86 WMMhor.

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WRITTEN QUESTIONS AND RESPONSES OF DR. PORTER

QUESTIONS FROM CHAIRMAN GLENN

(1) You appear to argue that our competitiveness problem is not as much the result of unfair trade practices by foreign nations as it is the result of problems here at home.
   (a) If you had to name three policy actions that should be taken today by Congress to help alleviate the problem what would they be?
   (b) The role of this committee in the competitiveness debate is not only to consider short-run remedies but long-run ones as well. What should Congress be doing in the long run to prevent further erosion in the nation's competitiveness?

(2) I'd like to know your opinion of the following:
   (a) Where will the economy be, say, ten years from now?
   (b) Where are the key investments likely to take place?

(3) Do you agree that we are not really shifting from a service economy to an industrial economy, but rather from one kind of industrial economy to another? If so, what are the policy implications?

(4) The Administration appears to be in the process of establishing tough guidelines on direct foreign investment in this country. Do you think they are needed?

(5) Are you in favor of relaxing our current controls on exports?

(6) What are the main reasons, in your view, of the failure of our government and our companies to obtain data from abroad that would help our competitive posture?

(7) Are there organizations abroad similar to our NTIS that we aren't taking advantage of?

(8) Do we need to worry about a "level playing field" on information sharing? E.g., should we allow foreign firms or countries to subscribe to NTIS if similar information on their side is not available to our firms or government?

(9) The current organizational structure of the Department of Commerce appears to a number of us to be inadequate to deal effectively with the nation's competitiveness problem. Independent from the notion of involving U.S.T.R. in a re-organization of Commerce into a Department of Trade, or in the creation of a separate U.S. Trade Administration, there is a proposal to re-organize Commerce into a Department of Industry and Technology. Such a Department would, for example, have an Under Secretary of Industry, which would have reporting to it:

(i) the offices currently reporting to the Under Secretary for International Trade;
(ii) the current office of the Under Secretary for Economic Affairs;
(iii) the current office of the Chief Economist;
(iv) the current Bureau of Economic Analysis;
(v) the current Bureau of the Census;
(vi) the current Minority Business Development Agency; and
(vii) the current Office of the Assistant Secretary for Economic Development.

There would also be an Under Secretary for Technology, which would have reporting to it:

(i) the current Office of the Assistant Secretary for Productivity, Technology, and Innovation;
(ii) the National Technical Information Service;
(iii) the current Patent and Trademark Office;
(iv) the National Bureau of Standards; and
(v) the current office of the Assistant Secretary for Communications and Information.

What is your reaction to such a proposal?

QUESTION FROM SENATOR BINGAMAN

(1) Some have called for a Cabinet Council to make and coordinate competitiveness policy in the Federal government. There is currently an Economic Policy Council in the Cabinet for this purpose. However, given the broad agenda of the EPC, many of us are worried that trade and competitiveness are overwhelmed by other issues. Because of this problem, S. 489 proposes a reconstitution of the current Trade Policy Council, chaired by the USTR, into a National Trade Council, chaired by the President. We would like to hear your comments on the problems of the EPC and the proposal for a National Trade Council. Should we create a National Trade Council, or do we need to provide a statutory basis and staff for the EPC, similar to the National Security Council?

QUESTIONS FROM SENATOR ROTH

(1) Mr. Porter, you raise concerns in your testimony about the industry sector competitiveness councils in my S.330 proposal. I will be honest in saying I have questions about this approach myself. This provision was added in markup in 1983. Could you explain please, in some detail, why you have misgivings about the role such competitiveness councils would play?

(2) You criticize S.330 for not taking account of the agriculture trade concerns. Most experts agree, however, that the Foreign Agriculture Service in the Agriculture Department does a good job for agriculture interests, and we decided not to disrupt this. Agriculture officials sit with the USTR people now during agricultural trade negotiations and we would not change this. We have provide specific authority for agriculture officials to be involved in these meetings and authority for the trade secretary to delegate negotiation responsibility to the Secretary of Agriculture to take the lead on these agricultural negotiations. In light of these provisions, would you alter or temper your view of the way my S.330 addresses agriculture trade interests?

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May 11, 1987

The Honorable John Glenn
United States Senate
503 Hart Senate Office Building
Washington, DC 20510-6250

Dear Senator Glenn:

Thank you for your letter of April 28. I am pleased to respond to your questions in your letter.

Question 1. As you say in your question, I believe that unfair trade practices are only a part of the cause of our competitiveness problem. While there is no scientific basis for estimating exactly what percentage of our trade deficit is due to unfair trade practices, my suspicion would be that it would be less than one quarter and falling.

If I had to name three short-term policy actions that should be taken today by Congress to help alleviate the competitiveness problem, I would suggest the following:

- a significant reduction in the Federal budget deficit
- an immediate and highly visible increase in the rate of investment in education and particularly training
- a concerted effort to realign the currencies of Korea, Taiwan, and other Asian NICs combined with a major campaign to open up their markets and enforce intellectual property rights.

In order to implement a broad competitive program, and particularly my last suggestion, I strongly support the reorganization of the commerce and trade functions in the executive branch.

If I could take a number of actions that would have a long-term impact, I would choose the following:

- a comprehensive program to improve education and training at all levels in America. This, in my judgment, is the greatest leverage point of government in the competitiveness arena.

- a significant commitment to enhance the amount and coherence of government support of science and technology. A good program would include further increases in National Science Foundation spending, more centers of excellence, and an enhanced Federal government organization structure with which to coordinate science policy.

Question 2. I believe that the state of the economy ten years from now is hanging in the balance. There is an underlying strength in the American economy and a continued capacity to innovate. Many United States companies have taken important steps to get leaner and meaner and to boost productivity and quality. Many have yet to move from restructuring to the more positive steps of creating new products and processes and opening up foreign markets.

Whether this process will continue and lead to a scenario of long-term economic growth has a lot to do with the way we handle the current implications in trade, currencies, and spending. If America can mount an effective trade policy without getting tangled up in protectionism, make significant progress at reducing the Federal deficit, keep attention focused on the fundamentals such as education and innovation and help the business community regain its confidence about the future, the economy will be very healthy in ten years.

Conversely, if the Federal deficit keeps upward pressure on interest rates and inflation, new trade legislation leads to proliferating orderly marketing agreements and other special deals which freeze markets, and we continue our senseless Japanese bashing, then the economy in ten years will quite likely be one in which the American standard of living will have fallen further and economic growth is listless and erratic.

Question 3. I believe, as you do, that the distinction between a service economy and an industrial economy is an artificial and inappropriate distinction. Services and manufacturing are inextricably tied and their relative size in the economy is more a function of technology then of any shift in the nature of economic activity. Services are growing because many service activities once performed within companies are being purchased from outside vendors, because busy dual career families require more services, and because modern information technology is making the service component grow.

To me, the interconnections between manufacturing and services for many goods imply that we should not view either manufacturing or services as second class from a policy point of view. We need better data on services and more attention to policies that benefit service investment, which is often not in traditional capital goods. The growing service content of industry provides some cause for optimism because the United States is extremely strong in most areas of international business services.

Question 4. I do not believe there is any need for guidelines on direct foreign investment in the United States. While some may argue we should discourage foreign investment in critical or defense-related industries, I think that foreign investment would have to go very far in order for these concerns to be legitimate. If foreign ownership of an industry vital to defense approached fifty percent, then we might take some action to deal with it. Barring this, however, I think that any policy to control foreign investment will very likely turn into a tool for protectionism and for insulating special interests. I would strongly recommend that any policy be informal and on a case-by-case basis.

Question 5. While I am not an expert, I believe that some loosening of current export controls is long overdue. If products being controlled are readily available from foreign companies, it makes little sense for the United States to control them. My understanding is that this applies to at least some of the products currently on the controlled list.

Question 6. I believe that the most important barrier to companies ~~and~~ government organization obtaining data from abroad today is lack of interest and professionalism in doing so. I have found data to be available and, in fact, quite voluminous in most countries. Companies just do not place enough emphasis on its collection.

Question 7. There are a variety of private companies in the business of providing data of various kinds, as well as performing market research for companies. There may be some case for creating a body whose task is to identify all such organization in each important trading partner.

Question 8. From my experience, the currently available information about foreign circumstances is not being tapped. A level playing field in information is, then, not a crucial priority in my judgment. I can imagine, however, that certain countries may need some encouragement to share data. However, you should be aware that among the most valuable data in the United States are disclosures mandated by the SEC.

Question 9. My view is that the most essential organizational change necessary in the executive branch is to integrate trading and commercial authority into one line cabinet department. Having done that, the reorganization of the Department of Commerce functions that you describe in your question seems to be very sensible. I want to emphasize, however, that reorganizing the Department of Commerce without integrating it with USTR would achieve only twenty percent of the ultimate pay-out of a broader reorganization.

Senator Bingaman's Question. I would favor a statutory basis and staff for the economic policy council as a better solution than forming a national trade council. This is because I believe that the various dimensions of economic policy are inextricably tied and that trade is too narrow a focus when dealing with the issue of economic competitiveness.

If we set up a separate organization with responsibility just for trade, I am concerned that it will raise the complexity of an already cumbersome decision-making apparatus. On the other hand, if we can (1) instill in an economic policy council that competitiveness is the single most important priority in economic policy, and (2) create a strong, coherent cabinet department as the champion of trade and industrial matters, this organizational structure would most likely lend the clout and coherence to policy necessary to push forward in meeting that objective.

Senator Roth's Question 1. My concerns about the industry sector competitiveness councils have to do with the kind of proposals that are likely to emerge from such a mechanism. If one gets this kind of group together with the formal mandate stated in the bill, it seems to me inevitable that what will emerge are a string of requests for government assistance in a wide variety of areas.

Formally constituting such councils is a good deal different than merely having an advisory structure with industry representation. I am a firm believer in the need for industry advisory panels but ones that advise and do not have a mandate to initiate policy recommendations. Industry participants worry about competing rather than about how they can tap into government resources. If industry representatives in advisory panels spontaneously raise issues and are able to convince Federal officers to initiate policy proposals related to the industry, then I would be more comfortable that the proper checks and balances were probably in place.

Senator Roth's Question 2. Your point is well taken that the foreign agricultural service does a good job for agricultural interests and that Department of Agriculture officials coordinate well with USTR. My concern is that this smoothly working process is idiosyncratic to the individuals involved and may not remain so in the future. I believe it is dangerous to leave to the goodwill of the particular individuals involved at the time such important coordination. Perhaps, however, my concern could be dealt with by some statutory requirement for coordination rather than a full-blown organizational change. I would defer to experts in these matters for a solution.

I would be pleased to provide any further comments or assistance to you that would be helpful to your work. I appreciate your strong interest in these important subjects which are so vital to our nation's economic prosperity.

Sincerely,

Michael E. Porter

MEP:lcp

STATEMENT OF
THE HONORABLE WILLIAM E. BROCK
SECRETARY OF LABOR
BEFORE THE
SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS

March 31, 1987

Mr. Chairman and Members of the Committee:

I am pleased to have the opportunity to testify before you today on the President's proposals for improving the ability of the United States to compete. I am looking forward to discussing the important issues contained in the Administration's "Trade, Employment and Productivity Act of 1987", as Congress and the Administration jointly address the subject of competitiveness and the proper role of government in achieving our goals.

America faces a competitive challenge in the decades ahead which, if not addressed effectively, could have serious consequences for our economy, our national security, and the standard of living of all citizens.

A complex set of factors accounts for our country's present competitive posture: the budget deficit, slow productivity growth, and the need for a better education and training system to prepare our young people and dislocated workers for the changing nature of the workplace. I believe we can meet the challenge and overcome these problems. The President has established a national goal of assuring American competitive preeminence into the 21st century.

However, there is no single solution. To fulfill the Federal Government's responsibilities, the legislation the Administration has proposed has five titles aimed at:

1. Increasing investment in human and intellectual capital;

2. Promoting the development of science and technology;

3. Better protecting intellectual property rights;

4. Bringing about essential legal and regulatory reforms; and

5. Improving the international economic environment.

Investment in human capital is a key element in the President's proposal. Success in other areas will not make America more competitive if our workforce lacks the skills and flexibility that will be required for jobs of the future, and thus the ability to be more productive than ever before.

The "Trade, Employment and Productivity Act" contains four legislative initiatives developed by the Department of Labor to address the human resource dimension of the problem of competitiveness:

- A proposal to establish a new Worker Readjustment Program;
- An AFDC Youth Initiative to target services to youth in welfare families under the Job Training Partnership Act (JTPA);
- A proposal to refocus the public employment service; and

- A proposal to decentralize administrative financing of the Unemployment Insurance system.

Together, these initiatives will strengthen the ability to administer training and employment services effectively and to focus resources on two critical areas: the need for rapid redeployment of experienced workers dislocated because of a variety of economic factors, and the need to alleviate chronic welfare dependency among youth from welfare families.

In addition to the four employment and training proposals I have mentioned, I wish to alert the Committee to one other proposal. This proposal, which deals with the funding and termination of pension plans, was transmitted to Congress with the competitiveness package, but is not written as legislative language.

Let me briefly state that our initiative is designed to:

- Strengthen ERISA's minimum funding standards to assure that plans will be sufficiently funded and able to provide participants their full benefits;
- Permit employers to withdraw certain surplus assets from ongoing plans, provided that stringent conditions designed to protect plan participants are met; and
- Permit employers to transfer assets available for withdrawal from overfunded plans to fund employer sponsored health benefits of current retirees.

Now let me turn to the particular problem of dislocated workers.

Worker Readjustment Proposal

We now have in place three programs that attempt to address various aspects of the dislocated worker problem: Trade Adjustment Assistance (TAA), the JTPA Dislocated Worker Program, and Unemployment Compensation. Each of these approaches has serious limitations:

- TAA is costly, inequitable, has a lengthy and cumbersome investigation and certification process, and focuses on providing income support rather than the early intervention we know these workers need.
- The JTPA Dislocated Worker program has experienced problems too: there have been delays in mounting the programs and in enrolling displaced workers, and the Title III allocation process has not had the flexibility needed to target funds to where the problems are.
- The Unemployment Insurance system is primarily oriented toward income replacement -- it provides a temporary financial cushion for workers who lose their jobs, but has not been linked to the adjustment process.

We believe that a new, more comprehensive approach to the dislocated worker problem is called for. The Administration's worker readjustment proposal is a blend of the best features of our current programs, based on the positive learning experience we have had in determining what works best for these workers.

It incorporates many of the recommendations of my Task Force on Economic Adjustment and Worker Dislocation and the President's Commission on International Competitiveness.

Our proposal is based on a set of principles which we are convinced must be reflected in any new legislation to help dislocated workers.

- First, the program we have proposed is comprehensive and covers all workers regardless of the cause of their dislocation;
- Second, it provides incentives for early notification of plant closings and layoffs, and mechanisms for early intervention in those situations;
- Third, there are close linkages to the Unemployment Insurance system;
- Fourth, the program stresses prompt delivery of adjustment assistance and training -- as opposed to income support; and
- Fifth, it provides flexibility to target resources to where dislocations occur, and flexibility to move resources to those areas as quickly as the need arises.

The proposal we have submitted would set up a new program, replacing TAA and Title III of JTPA. It would be funded at $980 million and help 700,000 workers -- three times the resources and workers served by TAA and Title III combined. It would serve all dislocated workers, including those who are trade-impacted.

Governors would receive about $300 million by formula to establish an infrastucture in each State to provide basic readjustment services, such as assessment and job search assistance, and to establish a rapid response capability to deal quickly with plant closings.

One-half of the funds, or almost $500 million, would be available for retraining services such as classroom and on-the-job training, and vouchers for individuals to arrange their own training at approved institutions. We have a new concept called a certificate of eligibility for training, that workers could redeem over a two-year period. UI recipients who are enrolled in training by their 10th week could receive extensions of benefits, paid by the Worker Readjustment Program, until they complete training. States and substate areas would be given target expenditure levels for retraining services. If they don't spend this target amount, the money would be retained in the general retraining fund.

The remaining $196 million is set aside for the Secretary's discretionary use in industry-wide and multi-State projects, mass layoffs, natural disasters, and other national activities. A portion of the funds would be used for technical assistance, demonstration projects and research.

There are a number of worker readjustment proposals being discussed on the Hill these days. I believe we are all trying to achieve the same results -- an effective worker readjustment policy. But I believe now is the time to replace the inequitable and inefficient approach of having multiple programs serving different segments of the dislocated worker population. I believe the Administration has developed an excellent worker readjustment proposal and I am confident we can work together for its enactment this year.

AFDC Youth Proposal

Our AFDC Youth Proposal addresses another critical issue -- how to assist those who are dependent on welfare to achieve economic self-sufficiency. We cannot afford to continue a situation in which a large chunk of our youth population -- primarily poor, minority school dropouts -- faces a life of unemployment and welfare dependency, compounded by problems of illiteracy, drug use, and teen pregnancy. There is a real danger that if we do not act, a permanent youth underclass will result that will become the adult underclass of the future, and suffer long-term dependency on our welfare systems. I find this prospect unacceptable, as I am sure you do.

I recognize that the problem of welfare dependency is a multifaceted one that needs to be addressed in a number of ways. For disadvantaged youth at-risk of long-term dependency, literacy, training and employability development are key. Today, mastery of basic verbal and computational skills is a prerequisite for economic self-sufficiency in our society. Disadvantaged individuals may be unable to achieve such self-sufficiency unless they can master these basic skills. A relatively small up-front investment in literacy and basic skills will pay long-run dividends to our society and the individuals concerned.

Our AFDC Youth Initiative focuses on young parents receiving Aid to Families with Dependent Children (AFDC) and youth in AFDC families. Currently, 21 percent of JTPA Title II-A enrollees are ADFC recipients, but we need to reach more of this group.

Our proposal would add an enriched program option of employment and training for AFDC youth to the current Title II-B summer youth program. Service Delivery Areas could develop this new, enriched, year-round component targeted to AFDC youth; they could continue to carry out the traditional summer youth employment program; or they could carry out some combination of the two. Giving Service Delivery Areas this choice is in keeping with the overall JTPA philosophy of letting States and local areas set service priorities based on their local population needs and their capacities.

The new AFDC youth component would provide a package of services that is more comprehensive than anything offered previously under JTPA. Individuals would be assessed and, if there is a need, would be provided basic and remedial education, drug and alcohol abuse counseling, pregnancy and pregnancy prevention counseling, child care classes, and life skills planning classes. In addition, participants could be provided a broad range of training and employment services, including classroom and on-the-job training, work experience, job search assistance, and orientation to the world of work.

The AFDC Youth legislative proposal also would change the current Title II-B allocation formula in order to better target funds to the population eligible for the AFDC youth and summer employment programs. Currently, the fund distribution for the summer program is heavily weighted by the level of total unemployment, which is largely unrelated to the number of economically disadvantaged youth or welfare youth in a area. Our proposed formula would direct resources to areas using data on economically disadvantaged youth and AFDC families. This is much more closely related to the target needing II-B resources than under the current formula.

The President's budget proposes that the revised program, incorporating the AFDC Youth component, be funded at $800 million for Fiscal Year 1988. This represents a $50 million increase in funding over amounts appropriated for the Summer Youth Employment and Training Program for FY 1987.

The AFDC Youth proposal has been developed in close coordination with the Administration's "Greater Opportunity through Work" (GROW) proposal. GROW emphasizes continued schooling for teens without a high school diploma, and participation by other employable AFDC recipients in a range of education, training, and employment related activities, including JTPA programs. The requirements in GROW will help ensure that AFDC youth in greatest need will receive appropriate training which may include entering JTPA, and will also provide necessary supportive services, such as child care and transportation, for recipients who enter the AFDC youth program through GROW. Since these recipients include teen parents, this will be an important ingredient to the success of the initiative.

Mr. Chairman, we do not have all of the solutions to the problem of welfare dependency. But I believe that training and employment programs must be an integral part of any comprehensive attack on the problem. The AFDC Youth Initiative is an important step in dealing with welfare dependency through the JTPA system and we believe it is deserving of your consideration.

Proposal to Refocus the Public Employment Service

Our third proposal is "The Employment Services Act of 1987." During its 54-year history, the Nation's public labor exchange has helped millions of American workers find jobs. But as we near the close of the century, we face dramatic changes in the job market and we asked ourselves whether the Employment Service, as it is currently structured, can adapt to this change. To answer this question, we announced in the Federal Register a series of key questions on the purpose, design and focus of the Employment Service and invited public comment at a series of meetings held around the country. Based on comments from over 700 respondents, as well as research, studies and data, the Department developed its proposal to refocus the Employment Service to better address labor market needs between now and the turn of the century.

The amendments we are proposing to the Wagner-Peyser Act would encourage States to refocus services to enable workers to independently manage their own job-finding and placement activities. Emphasis would be on services such as testing, counseling, and provision of labor market information and job search assistance. Job-seekers who need more assistance in order to be job-ready would be referred to JTPA, education programs, and private placement and social service agencies.

Our proposal would give States more flexibility in managing the scope and nature of their public labor exchange. They would have autonomy in determining the level and types of services to be provided. Beginning in 1990, States would assume responsibility for funding public employment services. The Federal tax on employers that currently finances the Employment Service would be sharply reduced. While States would determine the amount of funds necessary to support their programs, I wish to emphasize that the source of funding for the employment service -- a tax on employers -- would not necessarily change. However, States, rather than the Federal Internal Revenue Service, would collect any employer tax they enact. Public employment services could also be supported with other resources, such as State general revenues or user-fees.

Our proposal would not affect current Federal responsibilities for veterans, alien labor certification, and collection of national labor market statistics.

Finally, our Wagner-Peyser Amendments would increase the involvement of the private sector, through Private Industry Councils (PICs) and State Councils, in the administration of labor exchange services. For example, PIC functions would include reviewing and evaluating Employment Service activities.

Unemployment Insurance (UI) Decentralization Proposal

Our final proposal is the "Employment Security Financing Act of 1987." Like the Employment Service proposal, this proposal is based on extensive public discussions through meetings and responses to a Federal Register notice on the need for improving the procedures for administering the UI system.

Our proposal would retain the basic elements and objective of the Unemployment Insurance program -- to provide short-term partial wage replacement for workers who lose their jobs. However, it would increase State administrative flexibility.

Under the proposal, the Federal grants for the administration of State unemployment compensation programs would be eliminated. The Department of Labor would no longer determine the level of administrative funding for each State, or prescribe detailed methods for program administration. Instead, States would be responsible for determining the appropriate level of funding for the administration of their programs, the source of that funding, and other administrative policies.

To free resources for the States, our proposal would also significantly reduce the Federal payroll tax burden. An amount equal to the remaining Federal payroll tax receipts would continue to be available to pay for Federal unemployment compensation programs and certain other Federally-mandated activities.

Federal management of the UI trust fund assets would continue, and funds collected by the States for program administration would be deposited in the trust fund and drawn down as needed.

We believe these changes will replace an overly rigid Federally-managed system with a more flexible, State-administered system that will be much more adaptable to the needs of individual States and employers.

The quickening pace of international competition which all of use have observed means that we must learn to quicken our response to internal weaknesses and deficiencies that we perceive in our systems and programs. The initiatives we are proposing are designed to do just that. These proposals should not be seen as independent, unrelated efforts.

The combined impact of these initiatives will establish a new, more flexible and closely integrated training and employment system at the State and local levels, and increase the Governors' discretion in managing services and program resources.

Under broad Federal guidelines, States will be able to plan and coordinate where, when and how resources will be used under the basic JTPA programs, under a new worker readjustment program, and in employment security programs. By enhancing the

Governors' ability to target resources, efficiencies can be attained and critical problem areas can be targeted more effectively.

In addition, the important partnership between the private sector and government will be strengthened through our proposals. Th private sector will be given a larger role -- through local Private Industry Councils and State training and employment councils -- a role that will provide for guidance and oversight in the planning and delivery of services. This private sector participation is essential and will continue to be essential in our efforts to assure that programs can respond to State and local labor market conditions, to training needs of our work force, and the skill demands of employers.

Mr. Chairman, all of the ideas on this subject being considered here in Congress will do nothing to improve the nation's competitiveness if they place too high a financial burden on the private sector, or if they dismantle the economic tools that have provided for recovery and growth thus far.

Just as the President and we in the Labor Department are viewing all of our many responsibilities with the goal of a competitive, flexible workforce that is second to none in the world, I urge this Committee to consider this same goal during your work on all issues, not just proposals that are to become part of a "competitiveness" package.

My staff and I look forward to working with you on enactment of the President's proposals which will improve our nation's competitiveness.

RESPONSES OF
THE HONORABLE WILLIAM E. BROCK
SECRETARY OF LABOR
TO QUESTIONS RELATING TO HIS TESTIMONY ON MARCH 31, 1987
BEFORE THE SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS

QUESTIONS FROM CHAIRMAN GLENN

1) Is it true that the increase in funding for worker re-training at the Labor Department is simply the (partial) result of a $400 million decrease in vocational training at the Department of Education?

Response: No. The decision to decrease funding for vocational education was made in advance of, and independently of, the decision to propose a new Worker Readjustment Program.

2) You have had a wide-range of professional experiences in the areas of business, labor, and government. In your testimony, you noted that through the Private Industry Councils, (PICs), an important partnership between the private sector and government has been created for administering state and local labor exchanges and other activities of the Employment Service. In S. 374 there is a proposal to create, at the federal level, a Council on Industrial Competitiveness, which would bring together business, government, and labor to advise the President and the Congress on a broad array of competitiveness problems. Do you favor the creation of such a group?

Response: I agree with the objective of getting various groups in the U.S.--business labor, academia, government--to work together to help improve U.S. competitiveness. However, a Council on Industrial Competitiveness, as proposed in Title X of S. 374, could evolve into a forum for developing an industrial policy for the United States--a result which raises serious problems. The legislation suggests, for example, that the Council "develop and promote a long-range vision and specific policies which enhance the productivity and international competitiveness of United States industries" (Sec. 1004 of Title X). That section would also have the Council assess private sector requests for relief or governmental assistance and recommend as a condition of such assistance any adjustment commitments which should be entered into on the part of management, employees, creditors, etc. I have general reservations regarding the establishment of a council vested with the responsibility of developing and promoting a "national vision and specific policies," regardless of the objectives of such policies. The national industrial policy which this council would have a mandate to develop and promote would be contrary to our market economy system. Further, a body should not be established to make recommendations regarding requests for relief that would affect specific industries, firms or groups of workers. Such recommendations would be an unwarranted intrusion into the private sector decision-making process. Title IV of H.R. 3 would establish a Council on Industrial Competitiveness, similar to that provided for in S. 374, which the Administration opposes. I would also note that the Administration has developed comprehensive legislation (H.R. 1155) to address a wide range of competitiveness issues.

3) I have several questions relating to the proposal for "trade impact statements" as contained in S. 489:

(a) Are there persons in your Department that, as a matter of course, prepare and disseminate analyses of the direct and indirect effects of the Department's actions on competitiveness and trade?

(b) In a day-to-day context how is your Department made aware systemically of similar actions taken by other Executive Branch agencies?

(c) How is the private sector routinely made aware of such actions?

(d) Overall, are you in favor of requiring Executive Branch agencies to issue "trade impact statements?"

Response: (a) Under the Administration's Regulatory Reform Program, we at the Department of Labor make a preliminary determination in every rulemaking procedure regarding whether the proposed action is likely to result in an annual economic effect of $100 million, a major increase in costs or prices, or "significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets."

If any of the foregoing criteria are met, the proposed rule is a "major rule" under Executive Order 12291 and will not be promulgated until its potential costs and benefits have been thoroughly analyzed by this Department and by the Office of Management and Budget. This analysis includes full consideration of whether the purpose of the proposed action might more efficiently be achieved through alternative methods.

(b) In a day-to-day context, we would be kept informed of similar actions undertaken by other Executive Branch agencies through the procedures developed under Executive Order 12291 by the Office of Information and Regulatory Affairs in the Office of Management and Budget.

(c) Through the publication by each agency of regulatory agendas, the private sector is routinely made aware of possible actions by Executive Branch agencies which may have a major effect on international trade and competitiveness. Such agendas are published in October and April of each year. Every proposed agency action which may have a major impact on trade and competitiveness is identified in these agendas.

(d) This Administration is proud of the progress of the Regulatory Reform Program under Executive Order 12291. In my view, the institutional procedures put into place in 1981 by that order provide an appropriate and effective mechanism with which to weigh the potential economic costs against the benefits of agency action. There is a clear necessity to weigh the potential negative impact of a proposed rule on international trade and competitiveness, but such weighing should take place in the context of considering general economic costs. I am opposed to legislation which would create a special category of economic costs or a separate regulatory review procedure for international trade and competitiveness.

4) As you are aware, S. 489 proposes to elevate interagency trade policy-making by abolishing the current Trade Policy Council, headed by the U.S.T.R., and creating in its place the National Trade Council (NTC), which would be headed by the President. As a former U.S.T.R. are you in favor of this proposal?

Response: I do not favor reorganizing the trade policy structure as proposed in S. 489. The President already receives adequate advice on issues involving trade, commodity and investment policy from the Trade Policy Committee, and its interagency subcommittee structure chaired by the USTR. In addition, the cabinet-level Economic Policy Council, which the President chairs, considers a broad range of economic issues, including, as needed, trade policy questions.

5) Again, I'd like to draw on your experience as U.S.T.R.

(a) Are you satisfied with the quality of our government's data on international trade and investment?

(b) Where would you suggest improvements?

(c) Is the proposal for creation of a National Trade Data Bank in S. 489 a good one?

Response: (a) In general, I am satisfied with the quality of the government's data on trade and investment. I would note, however, that an interagency working group on the quality of economic statistics is in the process of recommending improvements in the merchandise trade statistics.

(b) I have no specific proposals for improvements, but I note that the President's competitiveness legislation (H.R. 1155) would set up an export data system to be developed by the Secretary of Commerce, within available Departmental resources. This system would include data or information in a form which is useful to business firms in the private sector that are engaged in export-related activities. In addition, the Secretary of Commerce would conduct a study to (1) assess the overall adequacy and benefits of present trade-related data repositories, and (2) determine whether this data can, within existing resources be more effectively disseminated. He would also evaluate the need, based on expected costs and benefits, for further enhancement of trade-related data collection, storage and retrieval.

(c) I have some reservations about the proposal in S. 489 to set up a trade data bank. As drafted, the proposal could duplicate many ongoing data collection efforts, and could entail significant budget outlays.

6) What are the main reasons, in your view, of the failure of our government and our companies to obtain data from abroad that would help our competitive posture?

Response: To the best of my knowledge, our government and companies are generally able to obtain adequate data from abroad. There are some problems, of course, such as the lack of transparency in the government procurement process of several countries, especially Japan.

7) Are there organizations abroad similar to our NTIS that we aren't taking advantage of? Our responses to questions seven and eight are combined.

8) Do we need to worry about a "level playing field" on information sharing? E.g., should we allow foreign firms or countries to subscribe to NTIS if similar information on their side is not available to our firms or government?

Response: The questions about the National Technical Information Service (NTIS) should more appropriately be addressed to the Commerce Department, which now runs that organization (although the Administration is proposing that it be run by private companies under contract). I do understand that NTIS on occasion enters into contracts with organizations in foreign countries for a reciprocal exchange of information. Thus, there may be in some cases, a level playing field in the international flow of technical information. As a general comment, it is very difficult for governments to control the flow of information internationally. For example, I can't think of an appropriate and effective means to prevent U.S. incorporated subsidiaries of foreign firms from obtaining information put out by NTIS or similar agencies.

9) At the hearings you indicated the Administration did not yet have a formal position on the creation of a Department of Trade. Has such a position been formalized yet? What is it?

Response: The Administration has not taken a formal position on this matter.

QUESTIONS FROM SENATOR BINGAMAN

1) What is the role of the Labor Department in supporting the USTR, especially the new Multilateral Trade Negotiations?

Response: Under the Trade Expansion Act of 1962, the President established an interagency Trade Policy Committee

(TPC) structure to assist him in carrying out his trade responsibilities. This organization consists of three tiers of committees, administered and chaired by the USTR. The organization is the principal mechanism for developing and coordinating U.S. Government positions on international trade and investment policy issues. The Department of Labor is a member agency of the TPC and is participating in all of the committees established as a result of the Uruguay Round of Multilateral Trade Negotiations. Our primary focus in supporting the USTR is analyzing the impact of trade issues on domestic employment and in assuring that the interests of domestic labor are taken into account in the negotiating process.

2) Given your experience as the Trade Representative, how would you propose assuring support for the USTR for the Uruguay Round?

Response: In order to assure a successful round of multilateral trade negotiations, it will be necessary to have the support of all the economic interests concerned with the negotiations. Such support can only be achieved through the full participation of all the Trade Policy Committee agencies, by utilizing the private sector advisory process, and by thorough and regular consultations with the Congress. The Administration will also rely on reports and advice from the U.S. International Trade Commission and seek the views of the private sector by holding public hearings.

3) S. 374 proposes a study of the feasibility of providing portability for pensions. Do you support and would you be willing to carry out such a study?

Response: We regard the problems of achieving enhanced pension portability to be one of the major challenges facing our pension system. Under current law, there are several ways in which a change of jobs can result in the loss of private pension benefits to a worker. We believe the fact that such losses may be imposed on a worker who changes jobs can impede the mobility of the workforce that is needed to insure our competitiveness. It is for these reasons that the President, in his State of the Union Message, asked the Department of Labor to initiate a study of how the private pension system could be improved to reduce barriers to greater mobility in the U.S. workforce. We are carrying out this study as part of our Workforce 2000 effort. We know of no up-to-date study of pension portability. However, we believe that the proposed provision in S. 374 is not necessary because we are reviewing these issues as part of our workforce 2000 effort.

PREPARED STATEMENT OF ALLEN WALLIS

Mr. Chairman and Members of the Committee: Thank you for the invitation to come here today to discuss the issue of U.S. industrial competitiveness.

Secretaries Baker, Baldrige and Brock have preceded me and have discussed in some detail the President's competitiveness initiative. Secretary Baker's testimony, in particular, contained an impressive elaboration of that part of the President's program which deals with the international economic environment. I will not try to repeat what has already been said so well by others.

First, I should state the obvious fact that international economic policy cannot be separated from domestic economic policy. Indeed your hearings today, if I understand your purpose, arise from that inseparability: our competitiveness in world trade depends on the efficiency of our domestic economy, and it is concern for our trade deficit that is driving the President's and the Congress' intense interest in competitiveness. The inseparability of international from domestic economics means that the State Department has a deep involvement in economic policy.

But there is a more fundamental reason for State's concern with economic policy: protecting and enhancing the security of the United States depends first and foremost on the strength of our economy. The strength of our economy depends increasingly on international trade, as does the strength of our friends and allies throughout the world. International trade has not only direct positive effects on our economic well being but also indirect effects through the political, business and personal relations by which trade is carried out. We must spare no effort to counter the growing notion that the United States loses from international trade. We benefit greatly, both economically and politically. Our efforts should therefore be centered on opening markets here and abroad to expand our trading relations with most other nations.

Politically, we collaborate with other countries in such international economic organizations as the Organization for Economic Cooperation and Development, the International Energy Agency, the General Agreement on Tariffs and Trade, the International Monetary Fund, the International Bank for Reconstruction and Develoment and the regional development banks, and many organizations dealing with such specific activities as telecommunications, copyrights and patents, aviation, and individual commodities like coffee, copper, timber, jute and rubber. Also, we have comprehensive economic consultations led by the State Department approximately once a year with the ASEAN countries, the European Community, Korea, Pakistan, India and Turkey, twice a year with Japan and Israel, and four times a year with Canada.

Relations of our business firms with foreign countries increasingly involve not only traditional buying, selling, and investing here and abroad, but also joint ventures, licensing, and other cooperative arrangements.

The personal relations that accompany economic relations between governments and companies or that arise from the professional or business activities of individuals have as a byproduct enlarged understanding among the people of different countries.

Since this Committee is concerned with government structure, let me take a moment to sketch the organization of economic affairs in the Department of State.

Both the Secretary and the Deputy Secretary spend a considerable amount of time on economic issues. I am one of three Under Secretaries who deal with substantive areas, mine being economic affairs and agriculture. One of the largest of the functional bureaus in the Department is the Bureau of Economic and Business Affairs, headed by Assistant Secretary Douglas McMinn. In addition, there are people dealing with economic issues in each of the regional bureaus, in the Bureau of Intelligence and Research, in the Policy Planning Staff, and in every Embassy overseas.

Within the government, State is represented on the National Security Council, the Economic Policy Council, the Domestic Policy Council and various subcabinet councils and committees. There are regular meetings involving the Secretary and other cabinet officers who deal with economics. At the staff level there are almost continuous contacts with other economic agencies and with the private sector.

Under the direction of Secretary Shultz, we have made considerable progress in improving the economic function at State and in the Foreign Service in general. Economic issues are a top priority at all of our Embassies. They have to be.

If we are to achieve our objectives -- whether they are solutions to a trade dispute, opening markets, or encouraging economic adjustment -- we need effective representation of U.S. policies and views, sound analyses of foreign economies and industries, and monitoring of the compliance of other governments with international obligations. Also we must understand the connection between economic and political forces in foreign countries and how economic problems fit in our overall relationship with other nations. The Department of State and our embassies overseas, in cooperation with the other economic agencies, are more than ever before able to meet these needs.

Mr. Chairman, without repeating what was said by Secretaries Baker, Baldrige and Brock, I would like to offer some additional comments on the questions you asked us to address: What should be the extent and nature of government action necessary to maximize the nation's competitiveness in the world economy?

I believe the President's plan lays out very well a comprehensive program for government action to improve competitiveness. This program is good for America. It is essentially a program to increase our efficiency, which means to raise our standard of living and -- equally important -- to disseminate the benefits by making all Americans more productive. But while we address this issue, we should keep in mind the fact that while we can do better, the United States still has a healthy, productive economy. Compared to the economies of Western Europe and Japan, we are in good shape. Our growth over the past six years has exceeded that of most other developed nations. Our record of job creation has been unequalled. In our concern over the competition of Japanese industries, we should keep in mind that there are great inefficiencies in the Japanese economy. American labor is still among the most productive in the world and American management is second to none and is emulated around the world. There has been a tendency recently to equate the large trade deficit with a lack of competitiveness. That is not the whole picture. There are a number of causes of our trade deficit, and they stem more from the relative strength of our economy than from its weakness.

The causes of our trade deficit are found in the macroeconomic arena, not in the problems of one or more industries. The current account deficit in the balance of payments (which includes the trade balance) is equal to a surplus on the capital account. The causation between current and capital accounts can run in either direction. A trade deficit can emerge because there is a net inflow of foreign capital.There is strong evidence that this is the primary cause of the current U.S. trade deficit.

In the United States over the past several years, the attractiveness of investment has been greatly enhanced by our robust recovery, sharp reduction in inflation, favorable tax climate, reduction of regulations and free-market policy orientation. Abroad, investment climates have been less favorable. In the United States, a large part of our private saving -- none too plentiful to begin with -- was absorbed in financing large government expenditures. All of these factors, acting jointly, produced a strong net capital inflow into the United States. This inflow caused an increased demand for dollars and a rapid increase in the dollar's value. The dollar's appreciation through early 1985 greatly weakened the competitive position of U.S. producers.

The subsequent decline in the value of the dollar has already substantially improved our competitive position. Appropriate macroeconomic policies here and abroad can greatly assist the adjustment process. The most important way in which our government can help that process is by continuing to cut its expenditures, thereby freeing domestic saving for productive investment.

I think it is also worth a moment to take a closer look at the issue of the trade deficit and competitiveness. The fact that we have a trade deficit does not mean that the United States is losing its competitiveness. It is not a sign of economic weakness. Total output in the U.S. and output per capita are both higher now than in 1982 when we last had a trade surplus.

We do not have a trade deficit because we produce too little. We are running a trade deficit because, despite our great output, we use up even more than what we produce, including investments for the future and expenditures for defense. Willingness of foreigners to hold dollars is a sign of the strength of the U.S. economy, not weakness.

We should not, therefore, try to develop a host of new government programs to cure a trade deficit which will, with proper government and business leadership, right itself. One of the most important functions of government is to ensure that our businesses have an open market at home and abroad in which they have a full opportunity to compete. This means that our government should strive to reduce unfair trade practices and barriers to trade and investment that inhibit economic activity and harm our most competitive industries.

We must work to open foreign markets rather than close our own. And we must encourage other nations to follow policies which would enhance economic activity; this means remove unnecessary rigidities, lower taxes, stop protecting non-competitive industries, and reduce government interference in the marketplace. If Europe, Japan, and other nations adopt sound policies, there will be greater opportunities for United States exports; there will be less need for nations such as Japan and Germany to rely on export industries to fuel economic growth; there will be new markets for developing countries which will relieve their debt burden and make them once again major customers for U.S. exports; and there will be more incentives to invest in those countries.

Some of the steps we are taking in this regard are well known to you. First is the launching of a global trade round which will encompass critical new areas, such as services, agriculture, intellectual property and investment. There is no more important initiative. Another is the negotiation of a free trade area with Canada. In addition, there is the closer coordination on economic policies with the other major economic powers, resulting from the Tokyo Summit, and the Plaza and Paris meetings. In this context, we also have an ongoing dialogue with the Japanese on structural reform, which I chair for the U.S. side. There is also our strategy to address the debt problems of developing countries. And, there is our commitment to address aggressively cases of unfair trading practices so that our companies will be able to compete fairly in the United States and foreign markets. Finally, we are streamlining our export control procedures -- trimming the list of controlled items, accelerating processing, improving international cooperation -- all designed to help U.S. companies export while maintaining effective control of the transfer of strategic goods and technology to our adversaries.

All these policies, accompanied by reduction of government spending, should expand our exports and cut our trade deficit. We should not erect protective barriers around our industries; our businesses are willing and able to compete. Government should do whatever it can to create an environment domestically and internationally in which they can do so successfully.

In closing, I want to underscore the importance of keeping markets open -- and in opening markets abroad. International competition forces enterprises to compete by improving production techniques, cutting costs and developing new products and marketing strategies. Closing markets would simply make our companies less efficient and less competitive, and would require more and more protection at greater and greater cost to our economy. Overall, international trade strengthens our economy -- and the economies of our trading partners -- by helping us all to reach higher levels of growth by promoting the more efficient and more productive. This is why it is so vital that we successfully conclude the Uruguay round of trade negotiations.

The alternative -- closing our markets -- would be disastrous. It would quickly lead the world back to the protectionist era that followed the infamous Smoot-Hawley tarrif of 1930. At that time, trade virtually stopped and economic growth dropped precipitously. The result, was a massive global depression and, ultimately, a world war. If we are to learn from that experience, it must be that protectionism is never the answer.

UNDER SECRETARY OF STATE
FOR ECONOMIC AFFAIRS
WASHINGTON

April 10, 1987

Dear Mr. Chairman:

At the March 31 hearing of the Governmental Affairs Committee, I was asked to comment on S.374, a bill to promote economic competitiveness. I would like to expand on my comments and ask that this letter be entered into the hearing record.

Title I of S.374 requires the establishment of Offices of Technology Assessment in five of our Embassies to:

> "(A) participate in the scientific and technical community of the host nation and issue a monthly catalogue of activities;
>
> "(B) monitor, select, abstract, and translate important articles from scientific and technical journals of the host nation, in coordination with the National Technical Information Service and other relevant agencies; and
>
> "(C) prepare an annual analysis of technological trends and a directory listing government and private sources of information about scientific and engineering developments of the host nation."

The State Department places great importance on improving American competitiveness through the utilization of scientific advances and technology developed abroad. As I mentioned, 43 Foreign Service personnel serve as full-time S&T officers in two dozen of our Embassies, and in several countries they are already assisted by representatives of technical agencies including the National Science Foundation, the Department of Energy and NASA. These officers perform essentially the duties outlined in Section 101 of Title I of S.374. Short-term visits and exchanges involving other U.S. government scientists and engineers provide important supplemental sources of information.

Secretary Shultz takes strong personal interest in our S&T representation abroad. In fact, he ordered a review of the issue last year. Preliminary results of this review indicate that while improvements can be made in our overseas S&T representation, we should at this time focus our attention on the dissemination of the scientific and technical material already being reported. The Department of State is working closely with the National Technical Information Service, the National Science Foundation, and other agencies to address this matter. Meanwhile, I would urge the committee to postpone the adoption of any new, costly, and possibly duplicative initiatives such as that proposed in Title I of S.374.

Sincerely,

Allen Wallis

Allen Wallis

PREPARED STATEMENT OF DR. JOHN BRADEMAS

Introductory Remarks

Mr. Chairman and members of the Committee, I should like at the outset of my testimony to extend warm greetings to the distinguished members of the Committee, especially the Chairman, Senator Glenn; and the ranking minority member, Senator Roth. Indeed, I offer all members of this Committee my best wishes as you carry out your responsibilities in the 100th Congress.

I am honored to appear today in such distinguished company. It would be difficult to find two persons more knowledgeable about the range of challenges -- economic, scientific, national security -- now facing our country than the Director of the National Science Foundation, Erich Bloch, and Admiral Bobby Inman.

It is, of course, a particular personal pleasure for me to be here because, as you know, I served as a Member of Congress for twenty-two years and although my service was in the other body, I regard those years as among the most gratifying of my life, and I continue to take great pride in having contributed during that period to shaping the policies of our national government in support of education, the arts and other areas of American life.

For the past five-and-a-half years, I have had the privilege of serving as president of New York University, one of the foremost urban universities in the nation and, with nearly 47,000 students, the largest private university in the world. I must tell you that as a result of my experience on the campus, I am even more convinced of the wisdom of the judgments that you and my other colleagues in Congress and I made over the last generation in forging policies to assist the colleges and universities of our country and the students who attend them.

You will also not be surprised to learn that I have not lost my concern about public policy for higher education -- a concern that goes beyond the interests of my own university. Moreover -- something I could not do as a Member of Congress -- I now sit on a number of corporate and foundation boards, including the Boards of the Federal Reserve Bank of New York and the New York Stock Exchange, and I chair Governor Cuomo's New York State Council on Fiscal and Economic Priorities.

So I come before you today as one who wears several hats: that of a former Member of Congress; president of a major private university; and one who now devotes some attention to issues of the economy.

You have asked me to testify today on the role of education and, in particular, higher education in strengthening America's position in a globalized economy. Let me begin by commenting briefly on the connections between our colleges and universities and the full range of our aspirations as a nation.

Then I want to speak of the major economic challenges facing the country as we enter the final decades of the 20th century and the contribution that higher education can make to dealing with those challenges.

I want also to comment on the policies of the present national Administration and say why I think those policies have seriously frayed the educational and, therefore, the economic future of the United States.

I shall conclude by outlining an agenda for consideration by the 100th Congress to ensure that America's colleges and universities are prepared for the demands of the 21st century.

Education and the Nation's Aspirations

All of us are aware of the recent flood of reports that underscore the important place of higher education in American life.

Surely one reason for these studies is the rising recognition on the part of the American people of the significance to their own individual lives and to society as a whole of what happens -- or does not happen -- in our classrooms, libraries and laboratories.

Nearly all these reports agree on the following conclusions:

First, in the United States, higher education is the key to individual social and economic advance. The nation's colleges and universities enable millions of young men and women to develop their skills, hone their talents and better their lives

Second, a point to which I shall return in a moment, the enterprise of higher education lies at the heart of a powerful and expanding economy. The research and scholarship conducted on American campuses were major springboards from which we launched our extraordinary economic growth following World War II, and our universities will be a critical determinant of our economic health in the rest of this century and beyond.

Third, colleges and universities are indispensable to our national security. To design sophisticated weapons systems or implement $300 billion annual defense budgets is simply not possible without highly trained scientists, technicians and analysts. In like fashion, university-level education is central to our foreign policy. History and the social sciences and knowledge of cultures and languages other than our own are as essential to our diplomacy and the defense of our borders as are arms.

Fourth, colleges and universities are crucial to sustaining a lively and creative intellectual, cultural and civic life. The research carried on at universities has formed the cornerstone of our efforts to conquer disease, improve schools, reclaim the environment and create more humane working conditions. And by expanding our knowledge of ourselves and our place in the world, the arts, sciences and letters enrich us as individuals and as a society.

Beyond the instrumental ends served by institutions of higher learning -- providing individual opportunity, strengthening the economy, securing our international position and enhancing the quality of our national life -- there is another dimension to the contribution of our colleges and universities. Simply put, the world's wealthiest and most powerful free society has an obligation to foster the life of the mind as an important end in its own right. As the inheritors of Western civilization, we have a duty to preserve and add to that legacy for generations to come.

The State of the American Economy

Now you have invited me here this morning to examine just one dimension of education's many contributions to this country, namely, how, in an increasingly competitive world, higher education can strengthen the American economy.

As all the members of this Committee know, the decline of our competitiveness as a nation has become a matter of intense concern. There are compelling reasons for this apprehension.

So let me comment on the present state of the American economy.

First, we are in many ways very strong. Although the United States is no longer the economic giant it was four decades ago, ours is still the richest country in the world. The American GNP is about triple that of Japan and six times that of West Germany. Over the past six years, while Western European countries have lost 1.4 million jobs, the United States has produced 10 million new ones.

Inflation has fallen to its lowest annual level in 25 years -- a 1.1 percent rise in consumer prices in 1986, and interest rates are down.

Despite these indications of vitality, there is more than enough evidence that the engine of the American economy may be running out of steam. Here are some of the warning signs.

- Since 1981, the United States has piled up a total of $1 trillion in Federal budget deficits, double the deficits of our entire previous 200 years.
- In 1984, for the first time in 75 years, the United States became a debtor nation; our country, just five years ago, the largest creditor country in the world, is now its biggest debtor.
- The U.S. percentage of world exports, measured in constant dollars, shrank by nearly one-third between 1960 and 1984.
- Since 1970 the growth of American productivity has dipped by half.
- Real wages and salaries, the income on which most families depend, have since 1973 been falling.

- We are losing high-paying manufacturing jobs and replacing them with lower-paying jobs in services.
- Average unemployment has risen by nearly two percent in each of the last three decades. Today more than 40 percent of black teenagers are without jobs.

Meanwhile, the assault on American markets continues unabated.

- Our foreign trade deficit for 1986 reached a record $170 billion, four times greater than it was in 1981.
- Foreign countries sold one-quarter of the automobiles Americans bought in 1984 and, by 1990, will probably account for over 40 percent.
- The story is much the same for consumer goods: We no longer even manufacture black and white television sets while half our color sets and two-thirds of our radios come from abroad.
- Since 1960 the American steel and textile industries have been badly battered and distress has now spread from the rustbowl to Silicon Valley. The U.S. share of the world high-tech market dropped last year in seven of ten sectors.
- American makers of semiconductors have lost half a billion dollars over the past two years and have laid off 65,000 workers over the last five.

All these factors hold profound consequences not only for our economic position in the world but for our national security and for the quality of life for all Americans. Why do I say this?

Serious weaknesses in our economy clearly threaten our defense edge. The National Academy of Sciences said recently that Japanese and other foreign companies now supply "critical components" for American missiles, electronic warfare devices and other advanced weapon systems. Other studies by a Defense Department group and the Central Intelligence Agency found our semiconductor industry, a key to our defense capability, in even worse shape than previously thought.

American families are also feeling these economic strains. The proportion of our people living in poverty has remained stubbornly high and economic gains appear to have benefitted those with the greatest wealth. The middle-class feels increasingly squeezed.

Because each generation of Americans has always exceeded the standards of its parents in education, health, income, occupational status and material well-being, Americans have taken economic mobility for granted. But now a new prospect emerges: For the first time in our history, our children's standard of living may not equal, let alone surpass, our own.

Competitiveness: The National Watchword

For all these reasons, then, Mr. Chairman, competitiveness has become a national watchword, stirring concern from the Oval Office to Capitol Hill to Main Street.

In recent months, two groups have been formed for the precise purpose of focusing on our economic standing in the world.

One, the Council on Competitiveness, led by John K. Young, president of Hewlett-Packard, is working to make our waning competitive situation a top priority of decisionmakers in government and industry.

The other, the 200-member bipartisan Congressional Caucus on Competitiveness, is raising the competitiveness issue here on Capitol Hill. The caucus chairmen are Democratic Senator Max S. Baucus; Republican Senator John H. Chafee; Republican Representative Claudine Schneider and Democratic Representative Buddy MacKay.

Obviously, "competitiveness" is a theme that transcends professional and political partisanship, a cause around which seemingly all can rally.

Indeed, the distinguished Speaker of the House of Representatives, Jim Wright, has said, "This may be the dominant economic issue of the remaining years of the 20th century," while in his State of the Union Message in January, President Reagan pledged to guarantee that "Government does everything possible to promote America's ability to compete."

Although we see a burgeoning consensus that we must bolster American competitiveness, this tongue-twisting phrase has become a catchall category for an array of issues -- trade and antitrust measures; fiscal and monetary policies; the tax code; intellectual property rights; management techniques; the quality of American products; American attitudes toward work and saving; and finally, of course, investment in research and development, science and technology, and in education at every level.

Competitiveness and American Brainpower

Certainly, prominent among the several approaches being advanced for dealing with our economic problems is greater support of American brainpower.

An October 1986 essay in Fortune magazine emphasized the close nexus between scientific research, on the one hand, and, on the other, American productivity and strength in world markets. The report, entitled, "The High Tech Race," says, "Capital, abundant natural resources and economies of scale in the world's largest developed market all contributed to the doubling of output per man-hour over the past 40 years. But the largest single factor has been the forward march of U.S. science and technology."

Indeed, more and more voices are urging renewed attention to education, research and development as essential to restoring America's economic position in the world. Among the most prominent of those making this case are one of the witnesses here today, Erich Bloch; a panel of the White House Science Council; the Business-Higher Education Forum; both the Congressional Caucus on Competitiveness and the Council on Competitiveness; and the National Governors Association.

This spring Senators and Congressmen of both parties as well as President Reagan are highlighting the role of education and research in promoting competitiveness as they craft initiatives to bolster the economy.

Let me here, Mr. Chairman, take note of some legislative initiatives that address the educational dimension of competitiveness. Several distinguished members of this body, notably Senators Bingaman, Dodd, Kennedy, Pell and Simon, have already begun to craft measures that speak directly to the issues we discuss today. I urge that you seriously examine and consider their proposals.

Recent Policy Recommendations

Here I note that I served recently on the National Commission on Jobs and Small Business, convened by a bipartisan group of Senators, including Senator Nunn of this Committee, and Congressmen, and composed of twenty-two leaders from business, government, banking, science and labor. Our report, Making America Work Again, was released in February.

The group, whose honorary co-chairmen were Presidents Jimmy Carter and Gerald R. Ford, makes a clear and compelling case for support of research and development, worker training and retraining, and education at every level -- from early learning programs through graduate school.

Our report calls for a revival of America's spirit of enterprise and new attention to the potential of entrepreneurs and small businesses as forces for economic growth. Small business firms, according to the study, create 60 percent of the new jobs in the United States and are responsible for half the gross domestic product.

Let me also here note some earlier studies and reports by scholars and business and government leaders that emphasize the importance of higher education to America's economic future and make recommendations for appropriate action by the Federal government.

Virtually all these studies are extremely critical of present national policy toward higher education and research.

Four years ago, I served on the bipartisan National Commission on Student Financial Assistance, and I chaired its subcommittee on graduate education. Our Commission's report was issued in December 1983.

Our report warned of "signs of trouble and erosion" in the nation's graduate capacities, including serious shortages in doctoral talent, obsolete laboratories and outdated library collections, and the potential loss of a generation of scholars in certain fields.

The Commission members -- who were chosen by President Reagan, then Speaker O'Neill and then Senate President pro tem Thurmond -- unanimously agreed that indispensable to excellence in graduate education is the support of the Federal government.

In a series of powerful speeches, Erich Bloch, Director of the NSF, has identified serious deficiencies in the nation's research capabilities and asked for greater Federal support for academic science.

Last spring, a report entitled, A Renewed Partnership, was issued by a Panel on the Health of U.S. Colleges and Universities. This panel, co-chaired by David Packard, chairman of Hewlett-Packard and former Secretary of Defense, and Professor Allan Bromley of Yale University, was created by the White House Science Council at the request three years ago of Dr. George A. Keyworth, then Science Adviser to the President.

The conclusions of both Mr. Bloch and the Packard-Bromley group are on all fours with each other and with those of the National Commission on Student Financial Assistance.

In the past decade, says Mr. Bloch, there has been a troubling decline in the number of doctorates in mathematics, the physical sciences and engineering, with the Soviet Union and Japan turning out proportionately more engineers than the United States. He warns that this gap could grow wider as the American college-age population drops over the next decade.

Here I remind you that across these several graduate disciplines, minorities and women are grossly underrepresented.

After years of neglect and inadequate support, university laboratories, equipment and facilities are in an alarming state of disrepair, say Mr. Bloch and other authorities. The needs in this area are staggering -- some estimates run as high as $10 billion for equipment and $20 billion for facilities.

Beyond his concern about the poor condition of university laboratories and equipment, Mr. Bloch is also disturbed by the nation's research priorities. The military portion of the Federal research and development budget has ballooned during the Reagan years from about half to nearly three-fourths of all Federal spending on R & D. Here I cite two other authorities who are deeply troubled by this trend: Dr. Lawrence Bogorad, president of the American Association for the Advancement of Science; and Dr. Frank Press, president of the National Academy of Sciences.

The report on the status of academic science prepared by the White House Science Council group -- the Packard-Bromley panel -- also deplores the deterioration of facilities, obsolescence of equipment, and shortages of science and engineering faculty. "Our universities today," warn these experts, "simply cannot respond to society's expectations for them or discharge their national responsibilities in research and education without substantially increased support."

Mr. Chairman and members of the Committee, I think it significant that both Mr. Bloch and the White House panel argue strongly for a doubling of Federal support of basic research conducted at universities.

* * * * * * * * * * *

Now where does my analysis lead?

First, I have warned of America's declining competitive standing in an increasingly globalized economy.

Second, I have noted the relationship between investment in our colleges and universities and American competitiveness.

Third, I have cited several recent authoritative recommendations for public policy toward higher education and the virtual consensus they represent.

Given the evident importance of scholarship and research to our national competitiveness, we can only be alarmed at current Federal policies affecting higher education.

Although the details of these policies are familiar to many of you here, let me quickly review them for you.

Budgets

I begin with the Administration's budget for fiscal 1988. Mr. Reagan proposes to slash funds for education generally by 28 percent and for higher education specifically by an astonishing 45 percent.

To make my point, I cite three areas of the Reagan budget, all related to our economic strength: university-based science research and development, international studies, and student financial aid.

The Reagan proposals for academic research and development present a mixed picture. The President seems to be giving with one hand and taking away with the other. The Administration seeks a large boost in money in FY '88 for basic research through the National Science Foundation, a result of the strong leadership of Mr. Bloch.

Nevertheless, once again this year, the Administration is urging cuts in funds for the National Institutes of Health, which account for 40 percent of Federal support of university science.

Although the amounts involved are modest, Mr. Reagan is also continuing his campaign to kill support for another area where, in the new international economy, we need all the information and wisdom we can get -- international studies. The President remains hostile to such investment despite the judgment of such persons as Defense Secretary Weinberger and former Secretary of State Kissinger that knowledge of foreign languages, cultures, political and social systems is vital to the nation's security -- as the Iranian fiasco surely demonstrates.

But the worst casualty of the Reagan budget is financial assistance to college students. In fiscal 1988 the Administration would chop student aid by a full 45 percent below the amount Congress voted for FY '87. Think of it: Mr. Reagan wants to cut student aid from $8.2 billion this year to $4.5 billion!

The Reagan student aid budget would eliminate 3 million awards. Hardest hit would be one million students now receiving Pell Grants, which go to the financially neediest. These students would simply lose this crucial help.

Indeed, the budget would abolish -- completely do away with -- all the following programs: Supplemental Educational Opportunity Grants (SEOG); National Direct Student Loans (NDSL); State Student Incentive Grants (SSIG); the Graduate and Professional Opportunities Program (GPOP); Jacob Javits National Graduate Fellowships; and even the College Work-Study Program.

If enacted, the White House '88 budget would force all but the very, very poorest students to turn to loan programs that would make going to college much more expensive and would substantially increase student indebtedness.

Moreover, the "new" Income-Contingent Loan program, introduced with such fanfare by Secretary of Education Bennett, would no longer subsidize interest on student loans and would link repayments to a student's earnings after college. Some experts estimate that student borrowers would have far larger bills to pay and would stay in debt for decades.

So that you can better understand the impact of the Reagan Administration's proposals, particularly for student aid, let me tell you their effect on our overwhelming low and middle income student body at my own New York University. Approximately 3,000 NYU students would lose their Federal loans or grants, a 22 percent drop, from $40.2 million to $31.2 million. I note here that NYU students from 1981-82 through 1985-86 already lost $11 million in Federal student aid, an 18 percent decline in support. And I must add, that 80 percent of the students at NYU already hold part-time jobs in order to pay their way.

But Mr. Chairman and members of the Committee, the Reagan budget is not the only threat to American colleges and universities and their contribution to the strength of our economy.

Taxes

Although the tax reform bill President Reagan signed into law last fall represents major improvements in making the tax code fairer -- and as a long-time legislator, I take off my hat to my former colleagues, Dan Rostenkowski, Chairman of the House Ways and Means Committee, and Bob Packwood, former Chairman of the Senate Finance Committee, for their extraordinary leadership -- the measure also contains provisions that threaten the nation's competitiveness.

First, the legislation will tax scholarships and fellowships to the extent that students do not use the stipends for tuition and equipment, a particular hardship for graduate students in paying for room and board. Second, deductions for interest on student loans will be phased out, another cost increase for students.

Third, the new legislation mandates a $150 million ceiling per institution on access to tax-exempt financing by private but not public colleges and universities. And finally, the law will reduce giving to higher education by eliminating the charitable deduction for non-itemizers and by imposing a minimum tax on gifts of appreciated property.

So at a time when, both in the interests of our competitiveness in the world economy and our national security, voices on every hand urge greater investment in education, we are in effect imposing new tax burdens on the colleges and universities of the United States and on the students who attend them.

For how can we spur competitiveness if we eliminate the deductibility of interest on student loans and tax graduate students more heavily? Indeed, the combination of higher interest rates on student loans proposed in the fiscal '88 budget and eliminating deductibility on this interest in the new tax law subjects students to a double whammy. Such changes will clearly discourage many young men and women from attaining the advanced skills our economy so urgently needs.

Mr. Chairman, I have already spoken of the nearly desperate condition of the research facilities at American universities. How can we bolster their scientific capacity and thereby their contribution to competitiveness if we reduce access to the financing needed to modernize facilities?

As you know, many institutions of higher education must rely on tax-exempt bonds to construct and renovate facilities and modernize equipment. Because so much high-level, high-quality research in this country takes place at independent universities, the $150 million per institution cap on access to tax-exempt financing strikes directly at the nation's competitiveness by blunting our capabilities both to conduct essential research and produce the next generation of scholars and scientists.

This particular change will deny, in some cases for a decade or more, some two dozen private institutions access to the tax-exempt market. Among them are many of the nation's leading research universities, including in New York State alone, Columbia, Cornell, Rochester and New York University.

By compelling such universities to go to the more costly conventional market, this provision, in effect, imposes a new tax burden on them and solely because they are private rather than public institutions. Indeed, this change means that for the first time, Federal policy will by law place private colleges and universities in a position inferior to their public counterparts.

We all know that Secretary Bennett is out on the stump attacking colleges and universities for raising tuition. Yet the policies he and this Administration are pursuing -- cuts in student aid, increased costs of student borrowing, higher costs for renovating research facilities as well as tax changes that will reduce private contributions to higher education -- all these factors are directly responsible for generating more pressure for the steeper tuitions Mr. Bennett tells us he deplores.

Here I must acknowledge one constructive revision in the 1986 legislation -- a new 20 percent tax credit for sponsorship of basic research at colleges and universities.

Overall, however, the cumulative effect of these several provisions of the Tax Reform Act is a serious loss for American higher education generally and a particular blow to independent colleges and universities, a bizarre result for an Administration that rhetorically praises the private sector of American life.

Indeed, Mr. Chairman, in respect of everything I have been discussing, President Reagan's policies have failed to match his rhetoric.

- A President who promises to make America competitive presses budget and tax measures that favor our competitors.
- A President who praises the place of private values in public policies pursues a course especially damaging to the private colleges and universities of the land.
- A President who paints a future of "Star Wars" defense shields and a giant atom-smasher urges a budget that is blind to the link between such visions and the educated men and women needed to make them come true.

For from where are these highly trained people to come if not from the nation's colleges and universities? President Reagan has not seemed to understand the close connection between the achievement of goals he himself espouses and a strong system of higher education.

AGENDA FOR ACTION

Now I have asserted that our economic strength, our national security and our standard of living depend directly on the capacity of our colleges and universities to produce new knowledge and prepare future generations of scholars and scientists. If we fail to exercise leadership on education, we jeopardize all these dimensions of our national life.

I hasten to add that support of education is not the sole responsiblity of any one sector of our society. The Federal government, state governments, foundations and business and industry all have an interest in ensuring the vitality of learning in America.

Nor are colleges and universities the only arena to which we must direct our attention and resources. Upgrading the skills of the American workforce will demand concerted action across a range of educational fronts, from improved pre-school programs to reform of our public schools to adult literacy and worker retraining.

In light of the concerns of this Committee and of my position as president of a university, I shall, in concluding my testimony, concentrate on the responsibilities of the Federal government toward higher education.

In his response to the State of the Union Message, Speaker Wright declared, "The 100th Congress is determined to restore education to its rightful place at the pinnacle of our national priorities." I agree. How then can you as Members of the 100th Congress go about this task?

If the nation's colleges and universities are effectively to help prepare America for the competitive challenges of the coming decades, we must, I believe, take several actions:

* Ensure support to talented students who, because of financial need, might otherwise be denied a college education.

The several measures to support education that I and my colleagues in Congress, both Republicans and Democrats, helped write were a direct expression of our conviction that an opportunity for a college education should be denied no qualified and motivated student solely because he or she cannot afford it.

To that end we constructed, through a series of higher education laws, a fabric of grants, loans and work-study jobs to help able but needy young men and women go to college.

You and I can all see the disturbing signs that the commitment that informed that approach is being eroded. I urge members of the 100th Congress to follow the example of the 99th and 98th Congresses in rejuvenating and strengthening the bipartisan coalition in support of education that characterized my years in Congress and that you reject the Administration's proposed cuts in student aid.

For we cannot, as a nation, expect to restore our productivity by slamming shut the door of educational opportunity on millions of young Americans.

Allow me at this point, Mr. Chairman, to make a more general observation. In our justifiable preoccupation with our competitiveness let us be careful not to turn our backs on the range of programs to support education written over the last quarter-century to accomplish other worthy goals that may not be directly related to the size of the trade deficit or the rate of productivity.

For the economic ends of education do not, in my opinion, fully define this nation's concern for the state of our schools, colleges and universities. That concern extends to assuring the benefits of an education to those likely to be excluded because of race, income or physical handicap; to fostering the intellectual and aesthetic vigor of our national life; to providing each citizen an appreciation of and capacity for the responsibilities of citizenship.

These commitments should not now be abandoned in the search for ways to advance another important goal, namely, economic growth.

*   Strengthen the nation's capacity for advanced training and research, essential to producing experts in fields vital to our national interest.

I alluded earlier to the 1983 report on Graduate Education of the National Commission on Student Financial Assistance. Our Commission's findings then are directly relevant to our discussion today.

First, the Commission found severe shortages of scientists and engineers. For example, half the students in American graduate schools of engineering are from foreign countries. The implications of this fact for our economic future are ominous: not only are we failing to educate the new generation necessary to develop our own manufacturing technologies but we are exporting trained talent to our competitors in world markets.

Analyses by Nobel Laureate Wassily Leontief, professor of economics at New York University, indicate that the rate of technological change in American work life portends a deepening crisis in the skill levels of our workforce. By the year 2000, Leontief warns, America may have a shortage of as many as 15 million scientists, engineers, skilled mechanics and semi-skilled workers.

We are also threatened with inadequacies in the numbers of doctoral-level scholars in other areas as promising undergraduates, faced with high costs, reduced financial aid and an uncertain employment outlook, avoid graduate school. We already suffer from a serious deficiency of experts on the cultures, economies and foreign policies of other lands and face the potential loss of a generation of scholarship in the humanities and social sciences.

Despite these problems, there is a pattern, the Commission found, of declining Federal support for graduate fellowships and research assistantships. The number of Federal stipends for such purposes declined from nearly 80,000 in 1969 to half that fifteen years later.

The Commission, therefore, called for the following steps:

-- a substantial increase in the number of science and engineering fellowships sponsored by the various Federal agencies;
-- continued support, through the National Research Service Awards program, for biomedical and behavioral scientists; and
-- 750 additional fellowships annually for graduate students in the arts, humanities and social sciences.

As you know, Congress did act on this last recommendation in creating the Jacob Javits National Graduate Fellowship program, which the fiscal 1988 Reagan budget -- as did his FY '87 budget -- seeks to eliminate. And in the reauthorization of the Higher Education Act, Congress created a new program for Graduate Assistance in Areas of National Need -- science and engineering, and foreign language and area studies.

I should here underscore the Commission's recommendations that Federal programs to encourage graduate study in the sciences and engineering give particular attention to women and minorities. In coming years, these groups will clearly constitute a larger portion of the student population. The loss of their talent to graduate education is a loss to the entire nation.

Another new fellowship program, created last year, provides grants to institutions to prepare minority students for graduate study.

All these programs deserve your support. And I know that Senator Bingaman has made the establishment of new graduate fellowships in science and engineering a key part of his competitiveness bill.

Let me turn to research. Continuing failure to maintain adequate support for university-based research will inevitably diminish the quality of preparation of graduate students as well as slow the flow of new discoveries and ideas from our campus classrooms and laboratories.

There are several points to make about the research problem facing our nation today.

First -- and I quote here from Mr. Bloch -- "The United States has not invested in R and D in recent decades at the rate that sustained growth in a modern society requires." Our research effort lags behind our competitors. According to Mr. Bloch, when military research is eliminated from the comparison, our investment in R and D is significantly less, as a fraction of GNP, than that of Japan and West Germany.

A second point: Federal support for basic and applied research at colleges and universities has obviously not kept pace either with research by industry at home or abroad, or with the growth in research outlays by the governments of major competitors.

I must here note that basic research now accounts for less than 1 percent of the total Federal budget of $1 trillion.

A third point: In recent years Federal research support ear-marked for military purposes is high and rising.

As a percentage of all Federal R and D spending, the defense share rose from 50% in 1980 to over 70% last year. The Administration's fiscal 1988 budget calls for total R and D spending of $62.4 billion, but only $20.4 billion of that is for non-defense R and D and this figure represents an actual cut from fiscal 1987 levels.

In light of these trends, my recommendation is simple and straightforward: the Federal Government must clearly increase R and D funds for civilian purposes. This means substantially increasing the research budgets for the National Science Foundation as well as for the Federal mission agencies. I understand that Senator Bingaman has addressed the need for increased support of research and development in his bill.

There is another important component to the national R and D picture -- tax policy. Let me urge the following steps as an important part of your agenda as Members of the 100th Congress.

First, make permanent the new tax credit contained in the Tax Reform Act of 1986 to encourage private companies to finance basic research at universities.

Second, expand and make permanent the R and D tax credit established under the Economy Recovery Act of 1981.

Third, remove the $150 million cap on tax-exempt bond issues by independent colleges and universities imposed by the Tax Reform Act of 1986. This single provision not only threatens great harm to vital research programs of universities that by necessity rely on tax-exempt bonds to build and renovate laboratories and research facilities, but draws an invidious distinction between private and public institutions that should not be enshrined in a Federal statute.

Fourth, I urge re-examination of those provisions of the 1986 tax law that tax scholarships and fellowships and deny deductions for the interest paid on student loans.

My concern here is that we clearly recognize where the burden falls with these tax changes -- on students.

* Rebuild the eroding physical infrastructure of colleges and universities to provide adequate libraries and modern laboratories and equipment.

The material needs of advanced scientific investigation are vast, growing, and in some cases extremely expensive. Yet our investment in such equipment and facilities has been dangerously deficient.

Federal obligations to universities for R and D plant dropped precipitously between 1966 and 1983, by 90 percent in constant dollars! Half the physical plant of American higher education -- research laboratories, equipment, libraries and classrooms -- is more than 25 years old. One-quarter of this plant was built before World War II.

And universities are now able to meet only half their accumulated research needs. To replace and renew the physical plant of our colleges and universities will cost from between $10 to $20 billion.

To assist U.S. universities in restoring this vital academic infrastructure, Federal assistance is essential.

I realize, Mr. Chairman, that all of us become excited at the prospects that our laboratories will produce exotic new discoveries and dramatic breakthroughs. But this enthusiasm too often wanes when it comes time to discuss the equipment and facilities necessary to generate these developments.

I propose that a Facilities Modernization Fund be established. It should be administered by the major Federal reserach agencies and departments, and be coordinated by the NSF. Federal monies could also be made contingent on non-Federal matching funds.

A neglected but potentially important vehicle for Federal support in this area is the Higher Education Facilities Act, Title VII of the Higher Education Act.

Mr. Chairman, I would also make mention of a bill being developed by the House Committee on Education and Labor that seeks, among other purposes, to strengthen the nation's research and training capacities through increased support to colleges and universities.

This measure as presently designed emphasizes the needs of those institutions of learning that have not yet achieved consistently high levels of excellence in all areas. This is certainly a laudable goal.

But I would remind the members of this Committee that at a time when the economic challenges facing America are grave and immediate, we must attend to the vital infrastructure -- both physical and intellectual -- of those research and graduate institutions from which most of the innovations and discoveries have flowed.

Finally, we also must provide support for the modernization of libraries, particularly through Title II D. of the Higher Education Act, which funds library networking and new technologies.

* Maintain at both undergraduate and graduate levels, faculties of high quality.

Another problem facing colleges and universities, and one with a direct impact on our national capacity to produce the brainpower we need to compete, is to assure a continuing supply of scholars, researchers and professors of high quality.

In areas such as engineering and computer science, particularly computer engineering, solid-state electronics, and digital systems, faculty vacancies are already a serious problem. The allure of industrial and corporate life for some of our ablest faculty members is often irresistible; better salaries and superior laboratories are the most obvious advantages.

In other fields, the problem is nearly reversed as depressed employment markets limit faculty turnover in the humanities and social sciences.

In their recent book, American Professors: A National Resource Imperiled, Howard R. Bowen and Jack H. Schuster estimate that to meet future teaching and research needs, American colleges and universities must recruit nearly half a million persons into professorial ranks over the next 25 years. Yet there has been a gravitational shift of students -- among them, the most academically gifted -- away from careers in the academy.

To attract and retain talented young faculty, particularly in the endangered specialties, the report of the Graduate Education Subcommittee recommended an initiative similar to the Presidential Young Investigators Program first proposed by

President Reagan in 1981 to support young faculty researchers. Participants' salaries would be paid partly by Federal funds and partly by matching money from business and industry.

The aim of the program is to enhance the attractiveness of academic careers to young scientists and engineers. Of course, such a program could also be extended to young faculty members in the arts, humanities and social sciences.

* Expand Federal support of international education and exchange programs.

Our capacity as a nation to understand, communicate and conduct business with other peoples and nations is gravely threatened by our lack of knowledge of languages and cultures different from our own.

As the American economy grows increasingly more dependent on international trade, we need people trained to work effectively with Japanese business councils, Arab oil ministers, European agricultural officials and Third World governments.

I cite only one of an array of alarming findings about America's knowledge of other countries: there were, in 1979, 10,000 English-speaking Japanese business representatives on assignment in the U.S. but less than 900 American counterparts in Japan, few of whom had even a working knowledge of Japanese.

The Language Training and Area Studies Program (Title VI of the Higher Education Act) supports research and instruction in modern foreign languages. Currently authorized at $55 million, Title VI supports university-based national resource centers, fellowships, and independent research projects as well as a small number of undergraduate programs. As the legislative father of the forerunner of Title VI, the International Education Act of 1966, I urge continued and expanded support of Title VI programs.

I must mention here one of our most famed international exchange efforts, the Fulbright program which this year is celebrating its 40th anniversary. Since 1946 the Fulbright program has enabled 54,000 Americans to teach and study abroad and over 100,000 scholars from over 120 countries to come here.

The program reached its peak in 1965 with a budget of $76 million and with 9,000 scholars participating. By 1981 Fulbright funds had declined to $48 million and only 5,500 scholars took part.

From 1981 to 1985 Congress raised appropriations for the Fulbright Exchanges by 80 percent to $77 million. Even so, in 1984-85, the number of Fulbrighters was half that of 20 years ago. I believe it is in our national interest to restore our previous level of commitment, indeed to surpass it.

You should also support other international education initiatives in legislation introduced by Senator Dodd. His bill calls for new Centers for International Business Education, which would be based at universities and serve as regional resources for business. The Centers would teach business techniques which emphasize the international context of business. Other activities would include instruction in critical foreign languages, programs that promote the understanding of foreign cultures, and research and training in international trade.

Another part of Senator Dodd's bill calls for a special fund for the acquisition, translation and dissemination of technical and scientific periodicals published outside the United States.

* Devise ways of encouraging partnerships between and among business, government and institutions of education to design the technologies and develop the skills necessary for a competitive America.

Here I would single out for mention two areas in which cooperation among these various sectors of our society can yield impressive results.

One involves joint university-industry cooperative research efforts. The goal here is to marry the resources of these two sectors in carrying out both basic and applied research and then more rapidly transferring the discoveries of the laboratory to the private sector.

The National Science Foundation has undertaken such an initiative with its new Engineering Research Centers, which are based at universities, focus on problems of genuine interest to industry and include private sector employment. This year the NSF proposes to expand the concept in fields such as biology, plant science, behavioral and neural sciences, risk analysis, and computer and materials research.

President Reagan has signalled a willingness to expand the ERC approach as one way to spur the nation's competitive position.

I might here mention an example of fruitful university-industry cooperation drawn from my own institution. New York University's Courant Institute of Mathematical Sciences is currently working with IBM to design programs for the fifth generation of computers: the "ultracomputers" that are faster and more sophisticated than any yet built.

And let me also take this opportunity to cite the Council on Research and Technology (CORETECH), a new consortium of universities, companies, higher education and trade associations, and research institutes formed to develop effective policies to bolster research and development, both academic and corporate. This is the type of partnership among the worlds of business, industry and government that is needed to identify the nation's interest in these areas, fashion workable proposals and push for their adoption.

The second area calling for cooperation between institutions of higher education and government and business is the retraining of workers who lose their jobs because of market changes or desire to learn new skills to enter new careers.

Two year colleges, vocational schools and adult education programs at four-year colleges and universities offer a range of resources that can help dislocated workers adapt to economic change and find new job opportunities.

Here I believe the 100th Congress should make permanent existing individual exemptions for employer-financed education and training, now scheduled to expire this year. Legislation to accomplish just this objective has been introduced by Senator Moynihan and Congressmen Guarini and Vander Jagt. Employee educational assistance is a valuable mechanism for upgrading skills and developing new ones. You should support it.

More broadly -- and as recommended in the report of the Commission on Jobs and Small Business --institutions of higher education can assist local, state and regional efforts in economic development. This report calls on all colleges and universities to work with local public, business and labor leaders to decide which of the following resources they can best provide:

- technology transfer efforts;
- research and analysis;
- training programs;
- entrepreneurial institutes;
- centers of excellence in areas of outstanding faculty strength.

Technology transfer centers in particular offer a fruitful area of partnership for institutions of learning and businesses. And as our report makes clear, small business especially can be greatly aided by the expertise afforded by colleges and universities.

* Assure excellence in American education, particularly teaching.

We must make a major effort to attract and prepare the ablest men and women as teachers in our elementary and secondary schools -- a special responsibility for schools of education.

Education schools are even now upgrading both the quality of their curricula and the caliber of their students. But while reforming teacher education, colleges and universities must do a better job of encouraging undergraduates to pursue a career in teaching.

By 1992 the country will need 1.3 million new school teachers. Yet between 1973 and 1983, the number of teacher graduates dropped by 53 percent and enrollment in teacher education declined by one third.

At New York University we have established generous scholarships for students who want to be schoolteachers. But to encourage students to pursue teaching degrees, the Federal government should also provide incentives.

The nation's schools and colleges are in particular need of improved mathematics and science instruction. The report of the Commission on Jobs and Small Business recommended the following efforts to address this problem:

- tougher requirements for for high school and college graduation;
- salary supplements to attract better math and science teachers to our secondary schools;
- grants and forgivable loans to encourage undergraduates to pursue careers in science and mathematics and college teaching in those fields; and
- magnet schools for students talented in math and science.

Conclusion

Let me conclude my testimony with some history that bears directly on what brings us together today.

Over eighty-five years ago, at the start of the 20th century, Great Britain was caught up in a spirited public debate over the eclipse of English economic might by the upstart Americans. A leading industrialist of the time organized a commission of businessmen, labor leaders and educators to travel to the United States to find out why our economy was booming and theirs sputtering.

The Commission, which issued its report in 1902, reached the following conclusion:

> American industrial efficiency and its openness to the introduction of labor-saving innovations was largely due to the superior education of the American worker.... It is the interest in and expansion of education on every level in the U.S. and the willingness of the U.S. government to spend money on education that is making American industry so threatening to Britain.

This connection, recognized at the turn of the century, between education and a nation's creativity and prosperity was later eloquently voiced by the great philosopher Alfred North Whitehead, whose advice most Americans have wisely followed. "In the conditions of modern life," wrote Whitehead, "the rule is absolute. The race which does not value trained intelligence is doomed."

Well, I do not believe the American race is doomed... if we have the wit and the will vigorously to support the schools and colleges and universities of our land. It is, Mr. Chairman, the Members of the Congress of the United States from whom for nearly a generation the initiative for such support has largely come. And Mr. Chairman, I am confident that, as we look to the future of the American nation, it will be Congress on whom the American people can continue to depend for such leadership.

Thank you, Mr. Chairman, for this opportunity to appear before you.

REMARKS
MR. ERICH BLOCH
DIRECTOR, NATIONAL SCIENCE FOUNDATION

COMMITTEE ON GOVERNMENTAL AFFAIRS
UNITED STATES SENATE
THURSDAY, APRIL 2, 1987

GOOD MORNING. I APPRECIATE THE OPPORTUNITY TO BE HERE THIS MORNING, MR. CHAIRMAN, TO DISCUSS THE PROBLEM OF INTERNATIONAL ECONOMIC COMPETITIVENESS.

TO SUM UP MY VIEWS IN THE SHORTEST POSSIBLE WAY, I WOULD SAY "YES, THERE IS A SERIOUS PROBLEM OF ECONOMIC COMPETITIVENESS," AND "YES, THERE IS A LOT THAT SCIENTISTS AND ENGINEERS SHOULD BE DOING ABOUT IT."

ONE OF THE QUESTIONS THAT YOU POSED, MR. CHAIRMAN, ASKS HOW WE SHOULD DEFINE THE COMPETITIVENESS PROBLEM. ONE ANSWER IS THAT IT IS IMPORTANT THAT WE SEE IT AS THE RESULT OF OUR OWN ACTIONS -- SOMETHING THAT DEPENDS ON WHAT WE DO OURSELVES.

FOR TOO LONG WE HAVE TENDED TO LOOK ELSEWHERE FOR CAUSES: TO UNFAIR TRADE PRACTICES, OR LOW WAGES IN OTHER COUNTRIES, OR UNFAVORABLE EXCHANGE RATES.

BUT THE MOST IMPORTANT THING IS SIMPLY TO STAY AHEAD OF OUR COMPETITORS -- BY CREATING IDEAS THROUGH BASIC RESEARCH, AND TURNING THEM INTO HIGH QUALITY PRODUCTS AND SERVICES.

WE DID THIS SUCCESSFULLY IN THE PAST. THE EVIDENCE IS STRIKING: MORE THAN 40% OF OUR PRODUCTIVITY GAINS IN THE POST-WAR DECADES CAME FROM NEW KNOWLEDGE.

OUR COMPETITORS UNDERSTAND THIS ALSO: THEIR HIGH-VALUE PRODUCTS ARE BASED ON TECHNOLOGY, PROCESSES, AND MATERIALS THAT DID NOT EXIST AS RECENTLY AS TEN YEARS AGO.

MANY FORCES MUST COME TOGETHER TO ACHIEVE ECONOMIC COMPETITIVENESS. BY FAR THE MOST IMPORTANT, HOWEVER, ARE NEW KNOWLEDGE AND WELL EDUCATED PEOPLE.

NEW KNOWLEDGE THROUGH RESEARCH IS IMPORTANT BECAUSE IT PROVIDES IDEAS FOR NEW PRODUCTS IN HIGH-TECHNOLOGY AREAS, AND FOR PROCESS IMPROVEMENTS TO RAISE PRODUCTIVITY IN LOW-TECHNOLOGY MANUFACTURING AND SERVICE INDUSTRIES.

EDUCATION IS IMPORTANT BECAUSE OUR MOST IMPORTANT RESOURCE IS PEOPLE. PEOPLE COME ONLY THROUGH A LONG PROCESS OF EDUCATION. FOR A SCIENTIST OR ENGINEER, THE PROCESS BEGINS IN JUNIOR HIGH SCHOOL AND CONTINUES THROUGH UNDERGRADUATE AND GRADUATE TRAINING: IN ALL, A DOZEN YEARS OR MORE.

THE TIME NECESSARY TO EDUCATE SCIENTISTS AND ENGINEERS MAKES IMPERATIVE A CONTINUOUS FLOW OF THE MOST TALENTED YOUNG STUDENTS INTO SCIENCE AND ENGINEERING PROGRAMS.

ENSURING THAT WE HAVE ENOUGH PEOPLE REQUIRES CONSCIOUS POLICY. WE CANNOT DEPEND ON MARKET DEMAND, FOR THE MARKET FLUCTUATES MUCH TOO RAPIDLY. UNIVERSITIES CANNOT RESPOND RAPIDLY WHEN DEMAND GOES UP, AND PRODUCE SURPLUSES WHEN DEMAND IS DOWN.
A COMPETITIVE ECONOMY IS ONE THAT CAN PRODUCE EFFICIENTLY. THIS REQUIRES CONSTANT STRONG INVESTMENT IN PEOPLE, EQUIPMENT, AND FACILITIES.

BUT DURING THE 1970'S THE UNITED STATES NEGLECTED ITS RESEARCH AND ENGINEERING BASE, WHILE OUR TRADING PARTNERS INCREASED THEIRS.

TOO FEW OF OUR STUDENTS ENTER SCIENCE AND ENGINEERING, AND TOO FEW OF THOSE WHO DO, CONTINUE TO THE PHD.

THAT IS NOT THE WAY TO STAY COMPETITIVE. FAILURE TO INVEST ADEQUATELY IN R&D HAS FAR-REACHING ADVERSE CONSEQUENCES.

THE MAIN RESPONSIBILITY FOR MAINTAINING ECONOMIC COMPETIVENESS RESTS WITH THE PRIVATE SECTOR. GOVERNMENT'S ROLE IS GENERALLY LIMITED TO SUCH MATTERS AS TRADE, TAXATION, AND ANTITRUST.

BUT THERE IS ONE AREA IN WHICH GOVERNMENT'S ROLE IS CRITICAL: THAT IS THE SUPPORT OF BASIC RESEARCH AND EDUCATION. THIS IS A LONG TERM MATTER. NOTHING WE DO HERE WILL PRODUCE QUICK RESULTS. BUT IN THE LONG TERM, NOTHING ELSE WE CAN DO WILL HAVE SURER RESULTS.

NOW, WHERE DOES NSF FIT INTO THE PICTURE?

CONCERN WITH THE LONG TERM MEANS CONCERN WITH ALL PARTS OF THE SCIENCE AND ENGINEERING BASE. THE FOUNDATION IS THE ONLY FEDERAL AGENCY WITH SUCH BROAD RESPONSIBILITY FOR BASIC RESEARCH AND EDUCATION.

- NSF ENCOURAGES RESEARCH ON THE BOUNDARIES BETWEEN ESTABLISHED DISCIPLINES, WHERE SOME OF THE MOST SIGNIFICANT PROBLEMS ARISE.

- NSF SUPPORTS MATHEMATICS, SCIENCE AND ENGINEERING EDUCATION AT ALL LEVELS, AND IN WAYS THAT LINK EDUCATION AND RESEARCH IN A SYMBIOTIC MANNER.

- NSF ENCOURAGES COOPERATION BETWEEN UNIVERSITIES AND INDUSTRY, AND AMONG FEDERAL, STATE, AND LOCAL GOVERNMENTS.

- NSF SUPPORTS DEVELOPING INSTITUTIONS AND REGIONS, UNDERGRADUATE INSTITUTIONS, AND BROADER PARTICIPATION BY MINORITIES AND WOMEN.

INVESTING IN BASIC RESEARCH:

LET ME GIVE YOU SOME EXAMPLES THAT MAY MAKE THESE POINTS MORE DIRECTLY.

BY ITS NATURE BASIC RESEARCH CANNOT BE PLANNED. NOT ALL PROJECTS DELIVER ON THEIR PROMISES, AND OFTEN THE MOST SIGNIFICANT INSIGHTS COME IN UNEXPECTED WAYS. NOR CAN THE TECHNOLOGICAL OR ECONOMIC PAYOFF BE FORESEEN IN MANY CASES.

NONETHELESS, HISTORY TELLS US THAT THE PAYOFFS ARE THERE, AND ARE OFTEN DRAMATIC. FARADAY'S INVESTIGATION OF MAGNETIC FIELDS -- AT THE TIME LITTLE MORE THAN A CURIOSITY -- LED DIRECTLY TO THE ELECTRIC MOTOR AND GENERATOR.

MAXWELL'S STUDIES OF ELECTRICITY, MAGNETISM AND LIGHT LED FIRST TO RADIO, AND EVENTUALLY TO MODERN TELECOMMUNICATIONS.

ROENTGEN WAS STUDYING FLUORESCENCE WHEN HE DISCOVERED X-RAYS, WHICH WERE IMMEDIATELY PUT TO USE IN MEDICINE.

THESE ARE CLASSICAL EXAMPLES TODAY. LET ME GIVE YOU TWO WITH MORE RECENT PAYOFFS:

FIRST: SUPER-CONDUCTIVITY:

SUPER-CONDUCTIVITY IS MUCH IN THE NEWS TODAY, BUT IT IS A PHENOMENON WITH A LONG HISTORY. IT WAS DISCOVERED IN 1911, WHEN SCIENTISTS LEARNED THAT CERTAIN METALS LOSE ALL ELECTRICAL RESISTANCE AT TEMPERATURES A FEW DEGREES ABOVE ABSOLUTE ZERO.

FOR A LONG TIME THE PRACTICAL APPLICATIONS WERE LIMITED, BECAUSE MAINTAINING VERY LOW TEMPERATURES WAS EXPENSIVE.

BUT WITHIN THE LAST MONTH, RESEARCHERS IN INDUSTRIAL LABORATORIES AND AT UNIVERSITIES HERE, IN CHINA, AND IN EUROPE -- WHICH SHOWS THE INTERNATIONAL NATURE OF SCIENCE -- HAVE DEMONSTRATED THAT SUPER-CONDUCTIVITY CAN EXIST AT MUCH HIGHER TEMPERATURES -- TEMPERATURES THAT CAN BE ACHIEVED WITH INEXPENSIVE LIQUID NITROGEN. MUCH OF THE WORK IN THIS COUNTRY WAS SUPPORTED BY THE FOUNDATION.

THESE DISCOVERIES MAY REVOLUTIONIZE ELECTRIC POWER GENERATION AND DISTRIBUTION, TRANSPORTATION SYSTEMS, AND COMPUTING.

MAGNETIC RESONANCE IMAGING

THE SECOND EXAMPLE IS MAGNETIC RESONANCE IMAGING. MAGNETIC RESONANCE WAS DISCOVERED IN THE 1940'S, BUT ONLY IN RECENT YEARS HAS IT BEEN APPLIED TO MEDICAL IMAGING -- IN EFFECT, TO CREATING A REPLACEMENT FOR X-RAYS.

THE ESSENTIAL DISCOVERY WAS THAT A MAGNETIC FIELD IS MODIFIED SLIGHTLY AS IT PASSES THROUGH TISSUE, IN WAYS THAT CAN BE USED TO

DESCRIBE THE STRUCTURE OF THE TISSUE. MATHEMATICS FIRST USED BY ASTRONOMERS IS USED HERE TO PUT MANY DIFFERENT IMAGES TOGETHER IN

COMPUTERIZED AXIAL TOMOGRAPHY -- THE FAMILIAR CAT SCAN.

FOR PATIENTS THE RESULT IS THAT A CAT SCAN CAN BE DONE WITHOUT THE DANGEROUS EFFECTS OF LARGE AMOUNTS OF X-RAY. FOR INDUSTRY THE RESULT IS A NEW PRODUCT.

THIS IS AN EXAMPLE OF THE NEED FOR MULTIDISCIPLINARY RESEARCH. THE SCIENCE AND TECHNOLOGY CENTERS ARE AN ORGANIZATIONAL TOOL TO FOSTER THIS APPROACH.

BUILDING LINKAGES BETWEEN INDUSTRY AND UNIVERSITIES:

THESE ARE ALL EXAMPLES OF BASIC RESEARCH RESULTING EVENTUALLY IN IMPORTANT NEW TECHNOLOGIES. BUT THEY ALL INVOLVED MORE DELAY THAN WE WOULD LIKE -- AS MUCH AS HALF A CENTURY.

THERE IS NO EASY WAY TO CHANGE THIS. BUT PART OF THE ANSWER IS TO GET THE UNIVERSITIES -- WHERE MOST OF THE BASIC RESEARCH IS DONE -- IN CLOSER TOUCH WITH INDUSTRIES THAT MAY USE IT.

SCIENCE AND TECHNOLOGY CENTERS ARE ONE WAY TO DO THIS, AND NSF IS USING SOME OTHER APPROACHES. THEY ALL COME DOWN TO THE SAME THING: THE RESEARCHERS NEED TO KNOW HOW INDUSTRY LOOKS AT PROBLEMS, AND WHAT INDUSTRY SEES AS POSSIBLE WAYS TO ADVANCE.

INDUSTRY NEEDS TO KNOW WHAT UNIVERSITY BASIC RESEARCHERS ARE DOING, WHAT THEY CONSIDER IMPORTANT, WHAT THEY CONSIDER POSSIBLE.

BOTH SIDES NEED TO POOL MONEY, TALENT, AND EQUIPMENT TO WORK ON INTERESTING PROBLEMS.

AND PEOPLE NEED TO FLOW BOTH WAYS IN A STEADY STREAM, BECAUSE KNOWLEDGE IS MOST EASILY TRANSFERRED WHEN THE PERSON WHO HAS IT MOVES FROM ONE SIDE TO THE OTHER.

COMPETITION AND COOPERATION

A PARADOX OF SCIENCE AND ENGINEERING IS THAT COOPERATION AND COMPETITION COEXIST COMFORTABLY. AT ONE LEVEL, WE WANT OUR INDUSTRIES TO COMPETE AGRESSIVELY, BOTH DOMESTICALLY AND INTERNAIONALLY.

BUT AT THE SAME TIME WE ENCOURAGE COOPERATION AMONG OUR OWN INDUSTRIES, BETWEEN INDUSTRIES AND UNIVERSITIES IN THIS COUNTRY, AND BETWEEN BASIC RESEARCHERS HERE AND ABROAD. HOW CAN THIS WORK RATIONALLY?

PART OF THE ANSWER IS THAT WE ARE ALL BETTER OFF IF THE PROGRESS OF BASIC RESEARCH IS ACCELERATED. BASIC RESEARCH IS NOT A ZERO-SUM GAME: ADVANCES IN ONE LABORATORY, ONE INDUSTRY, OR ONE COUNTRY CAN EASILY BENEFIT MANY OTHERS. AND BECAUSE THESE

ADVANCES ARE SO DEPENDENT ON STIMULATION AND IDEAS THAT MAY COME FROM ANYWHERE, WE MUST KEEP THE PATHWAYS FOR THIS INFORMATION OPEN.

THE ONLY CAVEAT IS THAT THE FLOW MUST BE GENUINELY OPEN IN BOTH DIRECTIONS. IN GENERAL, IT IS. USUALLY THIS HAPPENS NATURALLY, BECAUSE BASIC RESEARCHERS UNDERSTAND THE NEED FOR OPEN COMMUNICATIONS. THEY SEEK TO KNOW, AND THEY ARE PROOUD TO TELL OTHERS OF THEIR ACCOMPLISHMENTS.

WHERE CULTURAL CONSTRAINTS TEND TO LIMIT COMMUNICATIONS, WE MUST NEGOTIATE SPECIFIC AGREEMENTS. AN EXAMPLE IS THE FIFTH GENERATION (ICOT) COMPUTER PROJECT IN JAPAN. NSF NEGOTIATED AN AGREEMENT UNDER WHICH AMERICAN SCIENTISTS SPEND LENGTHY PERIODS IN THE PRINCIPAL JAPANESE LABORATORY. WE NEED MORE AGREEMENTS OF THIS SORT.

THE SECOND PART OF THE ANSWER IS THAT COOPERATION IN BASIC RESEARCH DOES NOT MEAN THAT COMPETITION IN DEVELOPMENT, MANUFACTURING AND MARKETING IS ANY LESS FEASIBLE.

WE HAVE RELAXED OUR ANTITRUST LAW TO ALLOW JOINT VENTURES IN R AND D. WE HAVE EXPERIENCE WITH ORGANIZATIONS SUCH AS THE SEMICONDUCTOR RESEARCH CONSORTIUM AND THE MICROELECTRONICS AND COMPUTER CORPORATION.

NSF'S ENGINEERING RESEARCH CENTERS ARE SUPPORTED COOPERATIVELY BY GROUPS OF COMPANIES INTERESTED IN PARTICULAR LINES OF RESEARCH.

IN ALL OF THESE CASES COOPERATIVE EFFORTS TO EXPAND BASIC KNOWLEDGE LEAD NATURALLY IN VIGOROUS COMPETITION TO DEVELOP AND MARKET THE FINAL PRODUCT. THIS IS AS IT SHOULD BE.

SCIENCE AND TECHNOLOGY CENTERS AND GROUPS:

THE ENGINEERING RESEARCH CENTERS WERE THE FIRST EXAMPLES OF THE SCIENCE AND TECHNOLOGY CENTERS THAT THE PRESIDENT ANNOUNCED IN HIS STATE OF THE UNION MESSAGE.

IN 1988 WE EXPECT TO ESTABLISH ADDITIONAL ENGINEERING RESEARCH CENTERS, AND CENTERS FOR BIOTECHNOLOGY, MATERIALS SCIENCE, COMPUTER AND INFORMATION SCIENCES, AND SOCIAL AND BEHAVIORAL SCIENCES.

THESE CENTERS ARE LOCATED AT UNIVERSITIES. THEY ARE MULTIDISCIPLINARY, AND ARE ORGANIZED WITH STRONG INDUSTRY INVOLVEMENT. THEY DO BASIC RESEARCH ON PROBLEMS THAT ARE IMPORTANT TO SCIENCE AND IMPORTANT TO COMPETITIVENESS.

THE CENTERS ARE ALSO PART OF OUR STRATEGY FOR DEVELOPING HUMAN RESOURCES, BECAUSE THEY INVOLVE BOTH GRADUATE AND UNDERGRADUATE STUDENTS IN RESEARCH THAT IS CURRENT IN THE INDUSTRIES IN WHICH THEY WILL LATER FIND EMPLOYMENT.

FINALLY, THE MOVEMENT OF STUDENTS TO INDUSTRY AND OF SENIOR RESEARCHERS IN BOTH DIRECTIONS IS ONE OF THE MOST EFFECTIVE WAYS TO MOVE KNOWLEDGE OUT OF THE LABORATORY AND APPLY IT IN ECONOMICALLY SIGNIFICANT WAYS.

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FINALLY, I WOULD LIKE TO SUGGEST SOME GENERAL CRITERIA BY WHICH PENDING LEGISLATION MIGHT BE ASSESSED.

FIRST, TRADE AND PROTECTIONISM: LET US AT ALL COSTS KEEP CLEARLY IN MIND THAT THE SOLUTION IS TO MAKE OUR OWN INDUSTRIES COMPETITIVE, AND NOT TO PROTECT THEM FROM FOREIGN COMPETITORS. THIS IS EASY TO FORGET, BECAUSE THE WORKERS WHO ARE HELPED BY PROTECTIONIST POLICIES ARE KNOWN AND VISIBLE, WHILE THOSE WHO ARE HURT --THROUGH HIGHER PRICES AND REDUCED GROWTH -- ARE DIFFUSE AND LESS VISIBLE. THE DAMAGE DONE BY PROTECTIONIST MEASURES IS REAL NONETHELESS.

SECOND, EXPORT CONTROLS: WE CANNOT COMPETE INTERNATIONALLY IF WE ARE UNWILLING TO SELL OUR PRODUCTS. A RECENT REPORT OF THE NATIONAL ACADEMY OF SCIENCES -- SUPPORTED IN PART BY NSF -- MAKES IT CLEAR THAT SOME CONTROLS ON HIGH-TECHNOLOGY EXPORTS ARE NECESSARY, BUT THAT EXCESSIVE CONTROLS CAN IMPAIR OUR COMPETITIVENESS. THE ADMINSTRATION HAS PROPOSED A SERIES OF REFORMS IN THE EXPORT ADMINISTRATION ACT OF 1987. ENACTMENT OF THESE REFORMS, COMBINED WITH ADMINISTRATIVE STEPS ANNOUNCED BY THE ADMINISTRATION, SHOULD MAKE AMERICAN HIGH-TECHNOLOGY EXPORTS A SOURCE OF ECONOMIC STRENGTH.

THIRD, INTELLECTUAL PROPERTY: PATENT AND COPYRIGHT LAW -- THE MEANS BY WHICH PROPERTY RIGHTS IN IDEAS AND KNOWLEDGE ARE PROTECTED --VARY WIDELY FROM COUNTRY TO COUNTRY. THEY MUST BE STRONG IF THERE IS TO BE INCENTIVE ENOUGH TO SUPPORT R AND D PROGRAMS, FOR OTHERWISE THE PAYOFF GOES NOT TO THE PERSON WHO DOES THE WORK, BUT TO HIS COMPETITOR. THEY MUST ALSO BE CONSISTENT FROM ONE COUNTRY TO ANOTHER, AS ARE THE LAWS GOVERNING PHYSICAL PROPERTY.

WE HAVE MADE IMPORTANT CHANGES IN OUR PATENT AND COPYRIGHT LAWS IN THE PAST FEW YEARS, AND MORE ARE PROPOSED IN THE INTELLECTUAL PROPERTY REFORM ACT OF 1987. THESE EFFORTS ARE BEING SUPPLEMENTED BY THE DEPARTMENT OF COMMERCE THROUGH AGRESSIVE EFFORTS TO PERSUADE OTHER COUNTRIES TO ADOPT MORE CONSISTENT LAWS ON THIS SUBJECT. IN THE LONG RUN IT IS IN THEIR INTEREST TO DO SO, AND THE ADMINISTRATION IS MAKING THE EFFORT TO PERSUADE THEM.

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MR. CHAIRMAN, THE PRESIDENT ANNOUNCED RECENTLY A MAJOR INITIATIVE TO SET THE UNITED STATES ON "A QUEST FOR EXCELLENCE." HE SAID THAT OUR POLICIES MUST SERVE THREE OBJECTIVES:

O THEY MUST GENERATE NEW KNOWLEDGE IN SCIENCE AND TECHNOLOGY;

O THEY MUST SWIFTLY TRANSFER THAT KNOWLEDGE TO THE MARKETPLACE; AND

O THEY MUST EXPAND OUR NATION'S TALENT BASE IN SCIENCE AND ENGINEERING.

THESE ARE OBJECTIVES THAT WILL BE MET, IN PART, THROUGH THE PROGRAMS OF THE NATIONAL SCIENCE FOUNDATION. BUT THEY ARE LONG TERM CHALLENGES. THEY WILL BE MET ONLY BY A LONG TERM COMMITMENT TO STRENGTHEN OUR SCIENCE AND ENGINEERING BASE.

I KNOW THAT THESE GOALS ARE YOURS ALSO, AND I PROMISE THE ENTHUSIASTIC SUPPORT OF THE FOUNDATION TO HELP YOU ACHIEVE THEM.

THANK YOU.

QUESTIONS SUBMITTED FOR THE RECORD FROM SENATOR JOHN GLENN

Question: Over the past few years NSF has increased its support for a number of different university research centers. Five supercomputer centers have been established on university campuses, which provide the academic community with access to state-of-the-art computing capabilities. In addition, over a dozen engineering research centers have been established over the last few years. In 1988, NSF is proposing to further expand the notion of university research centers. What advantages do these research centers offer as a way of conducting basic research?

Answer: The proposed Science and Technology Centers extend the general concept of the successful Engineering Research Centers across the full spectrum of the scientific disciplines. There is a strong sense that certain areas are ripe for rapid advances and potential applications -- for example, biotechnology, materials sciences, computer and information sciences. These are multi-disciplinary areas, where many talents are brought to bear on emerging, complex research topics. Centers provide opportunities for interdisciplinary teams to attack forefront research issues and to do basic research that is scientifically exciting, in areas that are likely to be economically significant.

The Centers provide universities with new resources for research and teaching, and facilitate the transfer of knowledge from universities to the marketplace. A primary strength of the university-based Centers is the involvement of industry and state and local governments both scientifically and financially as participants in the effort.

Question: As you know, the Council on Industrial Competitiveness (proposed in S.374) would be an independent agency with membership from business, labor, government, academia and public interest groups, and in general would provide a forum where national leaders from a variety of sectors can identify and focus attention on national economic problems. If the scope of the Council were to be broadened in terms of its charter to take into account education, research, science and technology, what recommendations would you have so that both a near term and long term perspective would be included?

Answer: Although many factors influence the nation's competitiveness, a strong base of research and education is a prerequisite to maintaining our world leadership. However, I don't think that a cogent case has been made for the need for another agency to deal with our nation's economic problems.

Question: Several states have set up programs to combine university, government and industrial resources to develop and apply technology to a geographic area or an industry in an attempt to improve economic growth. These programs, in a sense, are experiments in determining the ways that these three entities can work together to increase productivity and competitiveness. In what ways can these state programs serve as models for similar programs at the Federal level?

Answer: I am encouraged that efforts to build partnerships between universities, industries and governments are expanding, and welcome the development of state programs. While there are many opportunities for cooperation and collaboration, the goals of state and federal programs are usually distinct.

At the state level, programs seek to foster local economic development through targeted investments in technological areas that are important to the state's industrial base. At the federal level, investments in research and education are intended to enhance the overall health of the nation's R&D and education enterprise and to achieve excellence in technological areas that are of particular national importance. There is much that can be gained from cooperation at all levels. But state programs often differ significantly enough in orientation to be inappropriate as models for federal programs.

Question: The U.S. has a very large research and development establishment and will fund in FY 87 nearly $70 billion dollars in R&D, including defense R&D. Yet we continually hear that the R&D being done under Federal sponsorship is not helping the economy as well as it could. Are there ways that Federal R&D could be made more responsive to the needs of the economy in improving productivity? For example, would a civilian equivalent to the Defense Applied Research Projects Agency (DARPA) be useful in focusing Federally sponsored civilian R&D on enhancing economic productivity?

Answer: To better address the nation's productivity needs, we need to expand our base of knowledge and use it to make new products and processes. We should expand our efforts in key areas such as manufacturing and concentrate some resources in other areas that show particular promise, such as ceramic materials and biotechnology.

I want to emphasize that we should support a broad base of research, because one never knows what will yield results or make progress possible in the future. If we had not made substantial investments in the biological sciences over the last decades, we would not be ahead in biotechnology today. Similarly, the dramatic progress we see today in superconductivity is due to earlier investments we made in materials and physics research. So the best way to improve productivity in the long run is to make sure we have a solid foundation of basic research and people who can use new knowledge to make new, better products and processes.

The National Science Foundation is moving in this direction. We should maintain strong support for university basic research and I don't think we need a new institution to carry out the work or to target specific areas in which enhanced research will yield results. Even though we can identify broad areas appropriate for federal investment, we can not pick particular research topics. We should allow the experts -- the scientists and engineers conducting the research --to decide what specific research needs to be done.

Question: Can you please describe the role of NSF in the area of science and engineering education and how that differs with the role of the Department of Education? In addition, how well do NSF and the Education Department cooperate in areas of mutual concern and do you have any recommendations that might help improve the situation?

Answer: The National Science Foundation is authorized and directed by statute to initiate and support programs to strengthen science, mathematics, and engineering education at all levels. Since its inception, the Foundation has funded a wide variety of projects designed to enhance the quality and effectiveness of education. Education activities take place across the Foundation -- within the Directorate for Science and Engineering Education (SEE) as well as through research and training opportunities in the disciplinary research directorates.

The Foundation's programs operate through awards to the most highly qualified providers as determined by competition and merit review. Since the need for educational improvement exists across the nation, efforts are made to assure that model activities are appropriately distributed geographically, and that the products of development projects are adaptable nationwide. Historically, the Foundation has had strong ties to the research communities, and has utilized these in many ways to bring disciplinary strength to bear on efforts to improve education in mathematics and the sciences.

Most of the budget of the Department of Education is required to be distributed to the states for specific programs that reach virtually every schoolroom in the United States (e.g., through categorical and block grant programs), and for very large student aid programs reaching millions of individuals. The fraction of the Department's budget allocable to experimental and research activities is not large. Because its mandate extends over all subject matter fields, the Department has not developed strong contacts and interactions with the research communities in particular fields, such as science, mathematics, and engineering.

The National Science Foundation and the Department of Education are currently cooperating in the areas of educational data and informal science education. We jointly support critical educational data bases. In addition, we jointly fund the very successful PBS science education show "3-2-1 Contact" and a new math series "Square One TV." The Foundation has had a lengthy dialogue with the Department of Education regarding its participation in these television series. NSF remains optimistic that the Department will continue to provide cooperative support in the near future, but the firmness of the Department's commitment for the long term is uncertain.

In the Trade, Employment and Productivity Act of 1987 submitted to Congress, the President mandates the Foundation and other agencies to work with the Department of Education to promote scientific literacy and interest in careers in science and engineering. We expect a close relationship with the Department of Education will develop regarding activities at the precollege level.

Question: One of the major considerations for enhancing U.S. competitiveness is a review of current antitrust laws. Some have argued that a relaxation of these laws is necessary to encourage greater sharing or research and technology among U.S. companies. Others argue that current antitrust laws are an important balance to prevent market consolidation and monopoly, while encouraging smaller companies to compete fairly. What are your thoughts on this issue?

Answer: The National Cooperative Research Act of 1984, confers limited antitrust immunity on pre-notified R&D joint ventures. The NSF vigorously supported that legislation, and we are very pleased with the results. The Act has plainly helped clear the way for an upsurge in cooperative R&D activity in American industry. Also helpful has been the Justice Department's strong recognition of international competition as an element in administration of antitrust standards.

The antitrust laws are an important balance to prevent market consolidation and monopoly and to discourage unfair competitive tactics. A degree of cooperation in R&D and related activity is entirely consistent. It permits sharing of technology that will be less than fully used if held proprietary. It helps overcome a tendency to underinvest because the benefits of one company's work will inevitably "leak" to competitors. And it helps avoid needless duplication of effort and corresponding waste of resources, especially of highly-trained scientists and engineers. Cooperation in these activities is consistent with the diversity and pluralism that are the great strength of our economic system.

Question: The service sector is taking a growing share of the labor force in this country and constitutes about 70 percent of the nation's economic output. Although measurement methods are still inexact, there are indications that productivity growth in services has been substantially less than that of the manufacturing sector over the last several years. Further, there are claims that the U.S. is lagging in the application of technology to services in order to improve productivity. What remedies do you propose for this problem?

Answer: There are many factors that impede deployment of technology in the service sector. One of the most critical is the need for strong research and education in systems and processes that allow services to be approached in an integrated manner instead of as a series of separate components. To use new technology efficiently, entire systems -- the service or manufacturing job that needs to be done -- must be integrated. Much of the research done to date has concentrated on applications for manufacturing rather than service. To some degree, this is appropriate given the seriousness of the problems in the manufacturing sector.

Question: What are the main reasons, in your view, of the failure of our government and our companies to obtain data from abroad that would help our competitive posture?

Answer: In fact many companies have their own resources for collecting information about research developments overseas. Whirlpool Corporation, for instance, has its own unit dedicated to following developments in Japan. Other firms, especially large firms, have similar organizations to monitor foreign technology. Smaller firms, especially high-tech small firms, are interested in developments overseas but lack their own collection facilities--and information available from commercial or government sources is often not detailed or current enough to be useful. Many companies have access to considerable amounts of information, but there is often no analysis or preselection, rendering the information less useful. Other companies do not think that they need information from abroad, considering U.S. sources to be sufficient and/or that information from U.S. sources is of higher quality than that available from abroad.

Question: Are there organizations abroad similar to our NTIS that we aren't taking advantage of?

Answer: Japan has the Japan Information Center of Science and Technology (JICST), with which NTIS has a cooperative exchange agreement and whose files are available on-line to subscribers in the U.S. Most of the files, however, are in Japanese and searchers require a Japanese-character terminal. S&T data bases are also available in Western Europe, maintained by government-funded organizations and/or by commercial entities. Foreign data bases are used by some U.S. companies, NTIS and the Foreign Broadcast Information Service on a regular basis; other U.S. companies and U.S. government agencies use these data bases on an ad hoc basis. The primary limiting factor is the foreign language source materials. Japan is putting on-line a data base of university research and other materials in Spring 1987. They are planning to place the required terminal at the Library of Congress or the National Science Foundation, for general availability to U.S. researchers.

Question: Do we need to worry about a "level playing field" on information sharing? E.g., should we allow foreign firms or countries to subscribe to NTIS if similar information on their side is not available to our firms or government?

Answer: As previously discussed, existing data bases which are not proprietary are available to U.S. users. No single country has the volume of S&T report output of NTIS. This reflects our scale and capacity rather than an act of denial by other countries.

Question: The current organizational structure of the Department of Commerce appears to a number of us to be inadequate to deal effectively with the nation's competitiveness problem. Independent from the notion of involving U.S.T.R. in a re-organization of Commerce into a Department of Trade, or in the creation of a separate U.S. Trade Administration, there is a proposal to re-organize Commerce into a Department of Industry and Technology. Such a Department would, for example, have an Under Secretary of Industry, which would have reporting to it:

(i) the offices currently reporting to the Under Secretary for International Trade;

(ii) the current office of the Under Secretary for Economic Affairs;

(iii) the current office of the Chief Economist;

(iv) the current Bureau of Economic Analysis;

(v) the current Bureau of the Census;

(vi) the current Minority Business Development Agency; and

(vii) the current Office of the Assistant Secretary for Economic Development.

There would also be an Under Secretary for Technology, which would have reporting to it:

(i) the current Office of the Assistant Secretary for Productivity, Technology, and Innovation;

(ii) the National Technical Information Service;

(iii) the current Patent and Trademark Office;

(iv) the National Bureau of Standards; and

(v) the current office of the Assistant Secretary for Communications and Information.

What is your reaction to such a proposal?

Answer: We have no specific comment on the reorganization of the Department of Commerce into a Department of Industry and Technology. In general, we believe that for any major reorganization to be effective there must be a clear understanding of what a new organizational approach would bring to the problems being faced, and a consensus that the proposed changes will have positive results. We also believe caution is necessary -- when trying to address complex issues through a "superagency" we must be careful not to lose the positive affects of a pluralistic approach.

QUESTION SUBMITTED FOR THE RECORD FROM SENATOR WILLIAM V. ROTH

Question: It seems to me that to be able to accurately describe the needs we will be facing for additional scientists and engineers, we need to know something about the numbers of people pursuing advanced degrees in science and engineering in our educational system, and, once these individuals have obtained the Ph.D., whether or not they are actually employed in an occupation related to science or engineering. To what extent do we have data on this, and do you have any recommendations to improve our ability to collect information in this regard?

Answer: At present, our ability to monitor the demand for scientists, engineers, and other educated workers is limited because of a lack of information on the relationship between employment and education. Industrial competitiveness, national security, improvements in precollege mathematics and science education, as well as other pressing items of national concern depend heavily on educating our population for careers in key fields. To address the demand for educated persons, we need to know the relationship between education and employment in the American work force.

Obtaining this information is a difficult challenge. Both the NAS and NSF attempt to collect information pertaining to the relationship between education and employment through various surveys.

The 1990 Decennial Census presents an opportunity to measure this relationship. The NSF has worked with the Federal Agency Council since 1984 on establishing the information requests for the 1990 Census. The Council has received many more data type requests than can be accommodated without significantly increasing the current census format and cost. The Council is currently in the process of prioritizing these requests. The NSF will continue to work with the Council in setting these priorities, as well as seeking other mechanisms to obtain this data.

QUESTIONS SUBMITTED FOR THE RECORD FROM SENATOR BINGAMAN

Question: The Committee has before it a number of proposals in S.374 to improve science and education in this country. Specifically, S. 374 proposes creating 500 new NSF graduate fellowships and establishing a University Research Facilities Fund. Do you support these proposals?

Answer: The NSF's priorities have been and remain to support people, instrumentation, and then facilities. Needs exist in all three areas, but it is in the support of the people who conduct basic research that NSF can have the most impact, and it is there, for that reason, that we have traditionally concentrated our support.

NSF's Graduate Research Fellowship Program is a very effective means of supporting excellence in science and engineering potential among graduate students and encouraging their pursuit of a career in science and technology. All scientific and engineering disciplines are supported through this program. Support will be provided for 200 additional new fellows in FY 1988, bringing the total of new graduate fellowships to 760. Including commitments from prior years, about 1700 students in total will receive such NSF graduate fellowship support in FY 1988. The National Science Foundation's Graduate Fellowship Program currently allows for graduate studies at foreign institutions.

We have already provided strong support for graduate fellowships in the President's 1988 budget, and believe positive effects can be achieved without the strictures in S. 374 that tie increases to identification of specific business industries, technologies and foreign countries that challenge American leadership. Identification and prioritization runs the risk of closing options in promising, new unanticipated areas of study. It is impossible to predict exactly which research areas will lead to the next scientific and technological advances. History has shown that almost every field has resulted in improvements in products, processes and services. For example, calculations developed through basic research in astronomy a few years ago became the basis of an important modern medical technology called computerized axial tomography: the "CAT" scan.

We believe the Foundation's open policy in the highly competitive fellowship program is the best assurance that the outstanding students in exciting research areas are supported, and that they undertake their studies at leading national and foreign institutions. Their ultimate contributions to the generation of new knowledge will provide a basis for future advances in science and technology and for improved U.S. competitiveness.

On the subject of research facilities, NSF recently initiated, in response to a Congressional mandate, regular, periodic surveys on the status and condition of academic research facilities. The first of these studies, "Science and Engineering Research Facilities at Doctorate-Granting Institutions" was issued in the fall of 1986. The survey revealed that while a problem exists with respect to the state of university research facilities, much activity on the part of non-Federal parties in the support of research facilities is occurring.

NSF's present support of facilities is closely linked to its support of basic research, and should remain so. Each NSF program must consider competing needs for project support, instrumentation, and research facilities in deciding how to allocate the limited funds available. Each program seeks to do whatever is necessary to support the most promising research possible. Thus, we do not support the creation of a special fund for research facilities since this would tend to separate facilities from the research conducted there.

In addition, where the Foundation does support specialized research facilities, significant matching of non-Federal funds is strongly encouraged. Our experience indicates that NSF funds attract dollars from other sectors. Our research support often acts as a catalyst bringing in support from other sectors for renovation or new construction. NSF insists on merit review as the mechanism for reaching all of its funding decisions, including those which support specialized research facilities or equipment.

Question: S. 374 also includes proposals which create a Future Teacher Training Corps and expand the use of computer software and videotape in education, which involve NSF. Do you support these proposals?

Answer: S. 374 would create a new Teacher Training Corps program in the Education Department to support teacher training fellowships for persons who agree to teach in geographic areas or fields of study -- including mathematics and science -- in which there is a shortage. Its objectives are similar to those of the Administration's proposal, S. 511, the Christa McAuliffe Teacher Training and Improvement Act. S. 511, however, would create a more flexible State grant program which can support a broader array of programs and service providers, depending on the teaching needs of the States and school districts. In addition to fellowships, States can support training institutes, professional exchange programs, exemplary teacher recognitions programs, pre-service postsecondary training, and other activities to improve the quality of elementary and secondary teaching in mathematics, science, and other academic fields. Although the Foundation supports the goals of S. 374's Teacher Training Corps, we believe S. 511 offers a more effective vehicle for meeting both local and national training needs.

The most important role for the Foundation is to continue its emphasis on model teacher preparation and teacher enhancement projects. These projects develop exemplary programs for teacher education in science and mathematics, to strengthen subject matter competence and in-service support systems. The projects are selected for support through the Foundation's usual competitive review process.

With respect to evaluation of computer software and education videotapes, we believe that significant activity is already taking place through educational and computing journals, the non-profit Educational Products Information Exchange (EPIE) software evaluation service, State education department evaluation activities, and the clearing house and evaluation services supported by the Department of Education through its Northwest Regional Educational Laboratory.

The Foundation's critical role is (1) to support research in the applications of advanced technology, leading to prototypes of innovative "next generation" hardware, software, systems and languages that will lead to large scale increases in educational effectiveness; and (2) to support activities that provide teachers with techniques for effective use of computers and other advanced technologies in teaching science and mathematics. Both these goals are pursued through ongoing activities in the Foundation's Science and Engineering Education Directorate.

Question: Please explain how and if you are consulted in the making of economic policy. Specifically, have you ever been invited to participate in the discussions of the Economic Policy Council?

Answer: The National Science Foundation is not a standing member of the EPC or of other Cabinet-level bodies. However, we have been included and consulted on all matters within our competence. We were actively involved in the EPC deliberations that led to the President's Trade, Employment, and Productivity package, particularly, but not exclusively, those portions that related directly to research and development.

NSF has also been coordinating and serving as primary drafter for a nearly completed interagency staff study of the semiconductor industry and its problems. We will be represented on a policy-level EPC Working Group considering the same subject. Most recently, we have been represented on an EPC working group considering the exciting developments in high-temperature superconductors.

In short, we have a very satisfactory relationship with the EPC. We are also involved in other aspects of Executive Branch economic policymaking. For example, Dr. David Kingsbury, NSF Assistant Director for Biological, Behavioral, and Social Sciences, chairs the Domestic Policy Council Working Group on Biotechnology.

Question: Some have called for a Cabinet Council to make and coordinate competitiveness policy in the Federal government. There is currently an Economic Policy Council in the Cabinet for this purpose. However, given the broad agenda of the EPC, many of us are worried that trade and competitiveness are overwhelmed by other issues. Because of this problem, S. 489 proposes a reconstitution of the current Trade Policy Council, chaired by the President. We would like to hear your comments on the problems of the EPC and the proposal for a National Trade Council, or do we need to provide a statutory basis and staff for the EPC, similar to the National Security Council?

Answer: Our impression is that trade and competitiveness, far from being overwhelmed by other issues on the broad agenda of the EPC, have lately almost dominated that agenda. Certainly a great deal of work on those issues has recently been done, and is still being done, under EPC's aegis.

In our view, the organization of the Executive Offices should remain the prerogative of the President.

Testimony of Dr. Jordan J. Baruch
President, Jordan Baruch Associates
1200 18th Street, N.W., Washington, D.C.
before
The Senate Governmental Affairs Committe
2 April, 1987

Mr. Chairman, members of the Committee, thank you for inviting me to testify today. Your three-page invitation was accompanied by seven bills and a fact sheet totalling 1021 pages. I am convinced that Senators earn their pay!

Before going further, let me introduce myself. Ten years ago, I started my government service as Assistant Secretary of Commerce for Science and Technology. Because we even then recognized the same problems this committee is addressing today, the name of my office was subsequently changed to the Office of Productivity, Technology and Innovation. During that tenure, I led the President's study on what the Federal Government could do to encourage Industrial Innovation. Many of the recommendations of that study have been put in place by the Carter and Reagan administrations.

I did, however, have a life before government. Over a 28 year span, I taught Electrical Engineering at MIT and business management at the Harvard Business School and the Tuck School at Dartmouth. In business, I was a founder of Bolt Beranek and Newman Inc. and a Department General Manager at G.E.

Currently I serve on several Boards, one of which is that of the Gould Co., an electronics firm and another is the Baupost Group, an investment management firm.

In addition I serve as consultant to industrial firms in the integration of strategy and technology. Lastly, and perhaps most relevant to today's task, I work with developing countries to help them create industrialization strategies and capabilities that will allow them to participate in the advancing global economy.

With this generally relevant background in technology and industry, why do I classify my work with developing countries as most relevant to my testimony today? The reason is simple; the questions raised in your invitation are similar to the questions that a developing country would ask. How can that be?

Government, particularly the Federal Government, has, in the past, focussed primarily on policies that provide incentives for actions that are considered socially important. We are now learning that promoting the will to act may not be enough; it may well be time for the Federal Government to deal with the question of enabling us to act. That , of course, is just what developing countries face--the task of enabling the population rather than simply encouraging them.

Of the many questions you raised -- from the procedural to the specific, I feel competent to address only a very few. Indeed there are many others, on commissions, task forces and committees who are trying to answer those same questions. Almost all of them will be tempted to prescribe draconian measures to pull us out of what they see as a dramatic situation. My own experience with development, however, tells me two things. The first is that we are not really in a dramatic situation; we are the natural victims of others' progress.

We are enormousely rich; we are very competent industrially; our natural resources are spectacular; our standard of living is high; our government is stable and foreigners flock to buy securities in our firms. What, indeed, is the problem? The fact of the matter is that we are losing our dominance in world markets. We are selling assets (our securities) and spending the money we take in. That's what our trade deficit signifies. It's not a good way to live and it can't go on forever. But it doesn't mean we're in a crisis.

You may well ask, "Aren't we losing our technical edge?" Look at the Japanese memory chips flooding our markets. Didn't we just take action barely in time? The fact is, I'm not sure we were wise in taking any action! Memory chips are essentially a commodity. Do we really want the country that developed the 80286, the 80386, the 6502 and the myriad other central processor chips to go back to making commodity stuff? That Japan and Korea and the others can compete with us in that kind of product should come as no surprise. They and others will continue to develop and we will continue to be forced to define an American niche in the global economy.

Indeed, it is likely that our future lies in the rapid development of sophisticated products and processes that are carefully targeted on the needs and wants--realized and unrealized--of the global marketplace. In the remainder of my remarks, I shall assume that that is the case.

The second thing that experience tells me is that there are no "quick fix" answers to the problem facing us. The shrinkage in our area of profitable, competitive engagement will continue. To prosper, we will have to learn to do far better the narrowing set of tasks that we can identify and hold as "ours." To do that, we need more people engaged in that sort of sophisticated development and those so engaged will need the tools with which to do it more effectively.

The question that we then face is, "What can the Federal Government do to help?"

Let me concentrate on two areas in my response:

- Information and

- Education

S259 creates a Department of Trade. Title IX of that bill may be the single most important concept I've seen in the kilopage you sent me. It is designed to provide information about potential markets to the U.S. business person. We have never, as far as I know, had this extensive a program aimed at gathering, processing and disseminating critically needed information to our business community. Yet, despite its excellence, I'm going to have the temerity to recommend significant extension of title IX.

As written, title IX calls for gathering information from,"departments, agencies and officials of the Federal Government..." That will certainly help, but government people tend, because of their responsibilities, to look at markets. Business people tend to look at customers. There is a vast difference between the two and we need information about both. The first is a statistical entity; the second makes the decision and the committment to purchase. Since the two are different and since we need both, why not use the information gathering skills of the private sector as well as those of the public sector? As a first step, then, I recommend that title IX be extended so that the Secretary shall have the authorization, facilities and staff to debrief volunteer business people on their return from foreign travel. Clearly, there will be no probing proprietary areas and the business people may even review and edit their comments before they are added to the system.

Such a project would gather bits and pieces of information about what potential customers really seem to want, about how they talk about our goods at cocktails and dinner and what they are willing and able to pay for what they want. Once those bits and pieces are added into the Trade Information System (TIS), however, they will cease being mere bits and pieces. They will soon form a coherent whole that will greatly expand the value of the system.

Customer information is only a piece of the armamentarium we need. It would be invaluable to our firms if the TIF could also provide timely early information about potential or actual competition. It is truly amazing how much of that information is available. Bits and pieces are gathered by private-sector business travellers, by shoppers, by ONR stations abroad, by our commercial attaches and even by our intelligence community. Again, the Secretary should be charged with gathering, consolidating and disseminating this information. Kept separate, those bits and pieces of information about new-product or new-process development etc. remain just bits and pieces. Consolidated, matched and annotated within the TIS they will form a vital part of a U.S. Industrial Early Warning System that will further extend the value of the system of title IX.

With those extensions in place, the TIS will tell us much about potential customers and those who would try to beat us out in reaching them. Now let's add to that capability the kind of cutting-edge knowledge that might enable us to beat out them in the race to serve those potential customers.

That edge can come from timely, early access to the growing body of foreign scientific and technical information. Yes, I'm fully aware that there are technical journals that publish that information--often delayed by 18 months--and that there are indexing and abstracting services that provide instantaneous access to that information--after a few more months. I'm also painfully aware that there is likely to be a many-month delay between informal discussions about that information, in arenas ranging from casual lunches to symposia before a paper is even written--if indeed it ever is.

What's more, if a a paper is published, it's increasingly likely to appear in Japanese.

It seems time, then, for us to add another set of early and timely bits and pieces to the TIS. Let's use the same voluntary debriefing system to collect information about foreign technical advances from academic, business and government travellers as they return from foreign lands. Let's coordinate them with relevant customer and competitor information to produce a really valuable Trade Information System.

But enough. Clearly I believe that a successful Trade Information System is a great deal more than that currently envisioned in title IX of S259. But S259 provides a vehicle for the necessary extension and I hope the Committee will use that opportunity.

Now let me move on to a brief set of comments about the role that I see for education and the role of the Federal Government in securing our position in the global economy.

The bills that you sent me certainly don't neglect education. In general, however, they address the social problem of increasing the access of society to the educational system. Additionally, one bill recommends the establishment of 500 NSF fellowships. Those are laudable goals, but I believe that they are virtually irrelevant to our current task.

> **If we have to become the originators of sophisticated new products and processes it is a simple and somewhat frightening fact that we are going to have to depend on a large body of intellectual, imaginative, inventive stars to get us there.**

I say that it is a frightening prospect because we, as a democratic people, have tended to shy away from nurturing excellence, perhaps out of a fear of creating an unfeeling, detached aristocracy that might somehow come to dominate the rest of us. Despite this fear we are going to need a creative elite as we have never needed one before. What's more, we are no longer going to be able to leave the creation of that elite to chance. How then can we square this conflict between our need and our reluctance??

Well first, what are our resources? They are enormous! Approximately 4.5 million students per year enroll in our nation's high schools. The top one percent of those, some 45,000 would clearly provide all the potential stars that we need. Just imagine what our competitive position would be like if even a third--15,000--individuals from the 99th percentile on some scale of excellence were to commit themselves to create the new firms of our future and revitalize our old ones.

The question, of course, is, "How do we select those potential stars and how do we educate them once we've got them?" No, I don't have the answers, but I think I can help you find them. First of all, what sort of a complex scale do we want to use for selection? Certainly intelligence will play a significant part as will creativity, analogical thinking, sensitivity to others' needs, etc. Noone really knows the ideal mix. Fortunately, it probably doesn't much matter. The individuals we'll find will have high potential even if we're considerably off in the weights we assign to those various characteristics. A relatively small group of psychologists, educators, business people, scientists and statesmen could come up with a useful set of criteria in a one-day session.

Having arrived at selection criteria, however, we face the much more difficult task of deciding how to educate this group. How do we infuse them simultaneously with competence and compassion? How do they learn to respect the wide range of those "outside" the elite group? How do we teach them that industry is as valid an arena for their skills as academe? Most of all, how do we educate them so that they fulfill their potential? These students, just entering secondary school, most around fourteen years of age, have to come out of the system some 8 to 10 years later motivated to compete internationally in business but not in war. Their skills must be overlaid on a deep-seated humanity. They must have a real sense of our place in history and a committment to their contributing to it. Clearly their education must be both broad and deep; we will not be turning out simple technocrats.

We probably don't know how to set up a system that starts in grade 9, runs through the postgraduate years and accomplishes all that we're looking for. We're not in total ignorance, however.

We have some role models that we can call on. Let's get them into contact with the students and teachers both in and out of the classroom.

We have years of experience with the NSF program for gifted high school students. Students voluntarily spend summers on selected college or university campuses immersed in a subject they have chosen from an offered list. They come out both inspired and skilled. The friends they make there last forever. Let's reconstitute that program in math, science, engineering, history and foreign languages such as Russian, Korean, Chinese and Japanese.

We have experience with cooperative education at the college and university level. Students come out of those programs with an appreciation for the validity of business as a career, with a respect for those who work and with a picture of what it's like to be one of them. It's probably time to experiment, in our new system with extending this cooperative program to other schools and to earlier grades.

We have come to recognize the potential importance of computers in the educational system. Let's make sure that each of the boys and girls selected for this special program has and uses a personal computer. Further, it will be important that they have access to a communication network so that they can share thoughts, educational software and the things that they will be writing.

We have gifted teachers in model schools who are accomplishing on a small scale, what we would accomplish nationally. We can learn from them and solicit their help in selecting and training the teachers we'll need for our system.

Whether our system takes the form of special magnet schools in urban areas, of enrichment programs in existing schools or of boarding programs for rural students, contact with their peers can and should be maintained.

After they graduate from secondary school, let's put them through the best universities or colleges that they can get into.

Mr. Chairman, members of the committee, I really don't know whether, when these new graduates emerge, there will be the capital and other resources necessary for them to make maximum use of what they've absorbed. I don't know but I'm certainly willing to bet a chunk of my tax dollars on it! Somehow these kids will find, invent, create and employ the tools that will make us competetive in the global marketplace.

Mr. Chairman, I'm sorry that I could neither address all your questions nor provide quick-fix answers for those that I did address. Fortunately, however, I think we have both the time to act with wisdom and the sense of urgency that calls for deliberate speed. Your efforts so far indicate your committtment. I urge you to put it all together.

Thank you again for the opportunity to testify. I wish you success.

QUESTION SUBMITTED TO DR. BARUCH FROM CHAIRMAN GLENN

1. The current organizational structure of the Department of Commerce appears to a number of us to be inadequate to deal effectively with the nation's competitiveness problem. Independent from the notion of involving U.S.T.R. in a re-organization of Commerce into a Department of Trade, or in the creation of a separate U.S. Trade Administration, there is a proposal to re-organize Commerce into a Department of Industry and Technology. Such a Department would, for example, have an Under Secretary of Industry, which would have reporting to it:

(i) the offices currently reporting to the Under Secretary for International Trade;
(ii) the current office of the Under Secretary for Economic Affairs;
(iii) the current office of the Chief Economist;
(iv) the current Bureau of Economic Analysis;
(v) the current Bureau of the Census;
(vi) the current Minority Business Development Agency; and
(vii) the current Office of the Assistant Secretary for Economic Development.

There would also be an Under Secretary for Technology, which would have reporting to it:

(i) the current Office of the Assistant Secretary for Productivity, Technology, and Innovation;
(ii) the National Technical Information Service;
(iii) the current Patent and Trademark Office;
(iv) the National Bureau of Standards; and
(v) the current office of the Assistant Secretary for Communications and Information.

What is your reaction to such a proposal?

Response to the Question from Chairman Glenn
Re a Department of Industry & Technology
Submitted by Dr. Jordan J. Baruch

Your question regarding a proposed Department of Industry and Technology is a most welcome one. It, in fact, represents the first real, intelligent proposal I have seen to build on our basic competence. Let me expand a bit.

The United States has a long and proud history of our government support for scientific research. We have provided the world with the largest number of Nobel Prize winners, uncovered secrets of nature ranging from the atom to the universe and from viruses to the human body. Nonetheless, something is amiss. The present pressure for national competitiveness is merely a symptom. Our rate of industrial, technological innovation, whereby we create the new products and processes that the world markets use, is simply too low to meet our aspirations in the global economy. Why?

Well, I think we are finally beginning to understand the answer. During the Carter Administration, I led a Domestic Policy Review (DPR) in order to answer the President's question, "What can the Federal Government do to enhance this country's rate of technological innovation?" Recognizing that industry is the arena where technological innovation must take place, the DPR focussed its attention on various measures from Anti-trust reform to R&D subsidy that would bias management's decisions toward innovation. We were conscious of Schumpeter's declaration:

> "Technological innovation is a thing sui generis. It is an act, not of intellect, but of will."

We thus focussed on industry's will to innovate.

In the ensuing years, I have spent much of my time as a consultant to a wide range of industries, from basic metals to electronics and digital computers. As a result, I have found that the DPR findings -- indeed its very premises --were necessary but not sufficient. Most of the firms I have come to know have the will to innovate; they lack the ability. Ask any "also ran" in the Olympics. Will has to be joined to ability in order to make winners. I'm no longer in a position to run a new DPR on the question, "What can the Federal Governmnet do to enhance industry's ability to engage in technological innovation? Nor, sad to say, is this administration likely to request such a review?

Lacking that, let me give you my own hard-earned views on the answer. For starters, your proposal for a Department of Industry and Technology is a giant step in the right direction. To expand on that statement, however, requires that I not only applaud the organization you have proposed but that I explain why a Department of Industry and Technology makes sense while a Department of Science and Technology does not. Toward that end, let me go back to my beginning remarks about science. Simply stated, science and technology are related but less intimately than are technology and industry!

The goal of scientific research is knowledge; the goal of technology is use. The scientist needs to uncover facts about nature and convince his peers that those facts are, indeed, true. His "market" is his peers. The technologists' goals are different. He seeks to create utility. His market, essentially always reached through industrial activity, (and I include agricultural production) is a user. His task is to convince that market that what he has created is useful. Those fundamental differences go a long way towards explaining the vast cultural difference between science and technology.

For scientists to flourish, they must communicate their findings to their peers. That is a major reason why any effort by government to interfere with that communication will fail. The communication of scientific findings is not incidental to research — it is a fundamental part of research.

For technologists to flourish, they must produce. Their very identity rests on their creations being made and used. They have little interest in convincing their peers of the value of their creation. Indeed, secrecy often prevails in technology as a necessary element of converting a creation to an industrial product, process or service. Technology and Industry thus are parts of the same activity — the creation of utility.

But aren't Science and Technology also closely related? There are two parts to that answer:

1. They are related casually but not as causally as Industry and Technology
2. If technology is to flourish, it had better not be administratively coupled to science.

Regarding the first -- technology does use scientific knowledge. It also uses craft, intuition and art to create its goods and services. At least as important, however, technology uses knowledge about its intended customers and about adjacent technologies such as production and distribution to create use and the economic rewards that go with it. Similarly, science does use (and is stimulated by) technology. As Gilfillan pointed out in the Sociology of Invention, "the invention of the steam engine did far more for the science of thermodynamics than the science of thermodynamics did for the invention of the steam engine." Yes, they are related, but casually, not causally!

Regarding the second statement -- the needed separation of science and technology -- we are the heirs of our history. The president has a SCIENCE advisor (who heads the Office of Science and Technology Policy). We have a National SCIENCE Foundation (which includes an Engineering Directorate and which is headed by an engineer). We have a National SCIENCE Board and even a Defense SCIENCE Board. Even the National Academy of ENGINEERING functions under the charter of the National Academy of SCIENCES and is housed in a building all of whose decorations recognize the value of truth; none of which recognize the value of utility. That last statemnt is indicative of the peril of merging the two. The cultures have fundamentally different values. To exacerbate the problem, over much of this century, science has built a network with the government. Put the two together and the scientists will control -- indeed define -- what technology should be doing and can do. We will produce beautiful papers but precious little utility!

So I'm enthusiastic about your proposal for a Department of Industry and Technology. Now let me focus on its internal organization and what those offices should DO to improve our competitiveness. Believing that form should follow function (I am, fundamentally, an engineer) let me start with some functions.

Market Information

It may, at first, seem strange for an avowed technologist to focus first on the Department's need to develop detailed, specific market information. As I pointed out earlier, however, technology needs that information if what it creates is to be used. But is such information essential to advancing our competitive position? The economist, Edwin Mansfield, as far back as October of 1961 in Econometrica demonstrated conclusively that the rate at which new technology (new industrial products and processes) was adopted in an industry was primarily related to the rate of return that the new technology would produce to the adopter! That adoption rate, of course, relates directly to sales, and sales -- profitable sales -- is what competitive position is all about. Even in consumer goods -- although less quantifiable -- new product sales are directly related to the value that the buyer perceives from the services that those products provide. That holds whether those services are tooth-whitening and/or caries prevention in toothpaste to image clarity and ease of use in a color television set.

To put it bluntly, a new technology exists to make some set of customers happy. For technologists to respond to that challenge, a knowledge of what set of functional and aesthetic qualities will make the customer happy is a MUST. Indeed, it is because I feel the necessity to impose that customer-oriented discipline on myself as well as the companies I serve, that I put the need for market information first on my list.

From the committee's point of view, however, we must ask how that information is to be gathered, how it will be organized, how it will be disseminated and who will do it. In my previous testimony I mentioned the possibility of "debriefing" on a voluntary basis, those foreign commercial travellers who are knowledgeable about the mechanisms, distribution structures and unpublished restraints on selling in various foreign countries. That activity will still leave unanswered the question of what foreign purchasers want to buy in terms of the often subtle "product characteristics" that appeal to those purchasers. Even the less subtle characteristics that control the purchase of industrial goods are unlikely to be uncovered by such debriefing. There are, however, ways to tackle that problem.

Many of our foreign business travellers compile detailed information on the likes and dislikes of foreign buyers. This information is, of course, proprietary -- as proprietary as internal technical information. Like other intellectual property assets of the corporation, however, we have good reason to expect that those data will be available for sale -- at the right price, to the right purchasers. For example, a cosmetic company's hard-earned knowledge about color preferences in country 1 (to borrow a term from the current hearings on the Iran arms problem) would be closely guarded from other cosmetic companies. Those same data, however, would be valuable to an American textile company, a dye company, a paint company, etc. What's more, since those companies are non-competitive with the cosmetic company, the latter would have an incentive to license those data (with appropriate restrictions) to those firms. Clearly such transactions are unlikely to take place without some brokering agent simply because it's hard to discover the existence of the valuable data. I propose, then that the department's Market Information System (MIS) (about which, more later) be used to organize and disseminate such brokerage opportunities.

There are other ways to gather such data as well. We need to recognize that abroad, as at home, domestic suppliers understand the culture, aspirations, economics and buying patterns of domestic purchasers far better than do foreigners. While we can't debrief them, they publish conclusions drawn from that knowledge. They publish, not in articles but in their advertisements. In the new department we need skilled ad reader/translators who can analyze the ads of successful foreign firms selling into their domestic markets. These analysts, backed by the MIS can thus develop consensus positions on the desired characteristics of a wide range of products -- from consumer to industrial goods -- to guide our own sales abroad. Ideally, this information system should be under the same office as the foreign commercial counselors and should have well-structured communication links with them. The FCC's will, in fact, be an important element in identifying, collecting, forwarding advertisements from newspapers, magazines and technical publications.

The data and the analyses can be combined with debriefing information, etc., to provide an extremely rich body of knowledge. The resulting system will include such information as:

- Desirable product characteristics
- Distribution channels
- Regulations -- published and unpublished
- Informal trading barriers
- Custom's rules, procedures and practices
- Illegal demands for payment, etc., etc.

Clearly, I am proposing an activity similar to intelligence analysis and indexing. While it is likely to be moderately expensive, probably requiring about 100 interviewers, readers and analysts, the potential payoff is enormous. Quality assurance of such information is, of course, essential to the success of the system and there is no current body of people in Commerce who can assure that quality. Indeed, it is doubtful if we can even hire people with enough substantive industry knowledge to do the task sufficiently well. We may have a paradigm for solving this problem in the current press for user fees to share the cost of government operations. In this case, however, we might consider the possibility of people instead of dollars as a form of sharing. I suspect that it is possible to get industry to lend analysts — on short-term assignment -- to the new office. Government employees would collect ads and translate them, but the analysis might well be done by industry people "on loan" for a few weeks to do a specific job in a specific industry.

I will also be proposing a system for collecting, processing and disseminating information relevant to new technology. To get the maximum impact from these parallel information systems, we will want to cross-reference them is some depth. We will also want to provide for the development of "watch lists" where a technological analyst asks for a watch on certain market information and vice versa.

To those ends, therefore, I will be suggesting the creation of an Office of Industrial Information (I would have said, "Intelligence" were it not such a loaded word) with joint oversight and direction from the two Undersecretaries' offices.

Technological Information

Now let's turn from information about what the customer wants to what we have on which to build solutions for him. The government has access or potential access to several bodies of technological information that individual companies (and even industries) cannot afford to glean. An incomplete list of those sources include:

1. Foreign publications in expensive-to-translate languages (Japanese, Korean, etc.)
2. Debriefing of engineers after foreign travel
3. Government laboratory developments
4. Contract technology developments (especially DOD developments to which the government has rights).

Some of this information, as in Items 1 and 2 above can be gathered and entered into an information system with relatively little or no additional technical work. Skilled interviewer/reader/translator/analysts will, of course, be required as was the case in the market information system. Information coming in from our science attaches abroad and from such foreign installations as the Office of Naval Research will provide valuable additions to this stream of technical knowledge.

The last two items on our list, government lab developments and contract developments, are not so productively added to the knowledge base without more work. As we are all well aware, direct spinoffs from such labs as NASA and the Defense Department occur only infrequently. The reason is easy to identify. Those developments are generally aimed at a specific customer (the government) and a specific function (eg: heat tiles for the shuttle's surface). The purpose is generally remote from civilian purposes, and whether it is or not, the price dependence for government decisions is usually far removed from civilian price thresholds. Direct spinoffs are thus unlikely.

In the process of developing many of those purpose-specific technologies, however, we have almost always passed through a basic set of far more generic technologies. It is within these more generic technologies that the potential for real economic spinoff lies. To realize that potential, however, requires that we be able either to trace the development and uncover the generic technologies or to back engineer from the specific result to the underlying generic technologies. Such generic technologies are what industrial firms will use for the base on which to build their new products and/or processes. While complex, this process (especially if tied to the Stevenson-Wydler Act) can, I believe, have a major impact on the industrial productivity of government developments.

To realize the potential inherent in such technology generalization, and for other purposes, I recommend the formation of a civilian parallel to DARPA -- perhaps a CARPA. Staffed by the same high level of technologists as DARPA, and under the guidance of a rotating industry/government advisory council, CARPA could make a major contribution to our technological knowledge base. I would expect CARPA not only to work on government lab technologies (through contracts as DARPA does) but to do the early propaedeutic work that would lead to the formation of generic technology centers as envisioned in Stevenson-Wydler.

Formation

It is all good and well for one individual to set down some of his recommendations as I have here. Let me caution you, however, against accepting those ideas and incorporating them in legislation. The design of a Department of Industry and Technology is too important to be left to a consultant! Even the design of an Office of Industrial Information, and its operating mode is far too important for that. The success of President Carter's Domestic Policy Review on Innovation rested on the heavy and active involvement of 180+ industry, goverment and academic management representatives. The one recommendation I can make that I can urge you to take is to gather a group of widely representative individuals from industry etc., to actively participate in the design of the new department and of the Office of Industrial Information. In my experience, those representatives are more than willing to work, especially on a proposal that may well greatly enhance the competitive position of the U.S.

Mr. Chairman, should that last recommendation interest you, please count on me to offer whatever assistance that you would consider helpful.

Thank you Mr. Chairman, and let me thank also the students in Professor J. B. Quinn's Seminar on Government Policy Tuck School for their valuable help in shaping these ideas.

PREPARED STATEMENT OF HOWARD D. SAMUEL

My name is Howard D. Samuel, and I am president of the Industrial Union Department (AFL-CIO), which represents 53 national and international unions and approximately five million members.

I must begin by reminding the subcommittee that it has only been a few years since our nation began to wake up to the challenge of international competitiveness. Twenty-five years ago, workers in the apparel industry -- one of the first industries to be affected -- became acutely aware of those competitiveness problems when we saw major sectors of our industry collapse under the tide of imports.

The traditional response, of course, was that the United States would have to sacrifice these low-wage, low-skill industries to our trading partners, in the name of comparative advantage.

Fifteen years ago the nation began to feel the impact of imports of steel and electronics, and a few years later, of autos made abroad and exported to the United States.

The intellectual guardians of trade then decreed that these smokestack industries, too, would have to be sacrificed on the altar of free trade.

They assured us that the United States could maintain a viable international economic presence by concentrating on high tech industries -- and anyway, they promised, most of our troubles were caused by our over-valued dollar.

Today, you are fully aware that despite the strengthening of the dollar, our domination of the high tech sector is rapidly evaporating, and that the result of these events of the past two decades has been the loss of more than two million jobs, the deterioration of our trade balance and the deindustrialization of America.

One of the most useful early reports recognizing the depth of the problem was a paper written by Professors George Lodge and Bruce Scott at the time of the 75th anniversary of the Harvard Business School in 1983. Professors Lodge and Scott were among the first to point out that trade deficits were not necessarily the result of the over-valued dollar, but they reflected rather a basic failure of our economy to be able to compete in the international economic arena.

They pointed out that our failure was measured not only by our trade deficits, but also by declining productivity and by a declining standard of living.

They also reminded us that the annual balance of trade statistics -- bad as they were -- failed to measure the most serious of our competitiveness problems, our steady loss of market share, both at home and abroad, to our trading partners. And they pointed out that we were losing market share not only in non-durables and in smokestack industries, but also in high tech sectors as well.

The January 1985 report of the President's Commission on Industrial Competitiveness echoed much of the message of the Lodge/Scott report, and for the first time it gave wide currency to the word competitiveness.

I was a member of the President's Commission, and although the three of us from the labor community were vastly outnumbered by the more than 20 members from business, I have no problems with the major thrust of the Commission's Report.

First, it carefully defined the concept of competitiveness to make it clear that it is not in our national interest to become more "competitive" by sacrificing jobs or incomes. The American company which decides to buy components from Taiwan, or move its assembly operations to Mexico, may be winning the battle of its own bottom line, but it is losing the war of competitiveness for America. Corporate leadership which forces down workers' wages may be able to maintain its traditional profit structure, but it is undermining the standard of living which is the foundation of our strength.

The other important contribution of the President's Commission was to demonstrate the multiplicity of issues which decide whether we succeed in the global marketplace. Just as Professors Lodge and Scott taught us that the problem involved many elements, so the Commission showed that the response must involve many elements.

I am convinced that trade law reform is a necessary first step, because without it, nothing we do in the way of macro-economic or micro-economic changes, public or private, will enable us to breach the barriers erected by our trading partners.

But it is clear that we must take other steps as well, such as improving our educational system, providing for training and retraining opportunities for displaced workers, encouraging more research and development, and reviewing how we can increase the availability of low-cost capital for productive investment.

Since the publication of the Commission's report, the competitiveness concept has caught the nation's fancy -- and on the whole, if the concept is understood, that is all to the good.

But competitiveness can also be a trap for the unwary, unless we put some limits around its definition:

1. As I suggested before, competing on the basis of reducing our standard of living is self-defeating and intolerable.

2. Competitiveness cannot and should not be used to mask the goals of those who want to reduce our commitments to consumer safety, or health and safety standards in the workplace, or the quality of our environment.

Competitiveness is a useful concept only if we restrict its applications to the steps that would enable us to flourish in the international market place without damaging our standard of living.

For a number of years, long before competitiveness became a national by-word, the Industrial Union Department has been among those who recognized the extent of the economic challenge facing us and has recommended the establishment of a framework which would encourage all the parties involved--labor, business, government, academia and public interest groups--to share their expertise in meeting the world-wide challenge.

This kind of partnership is the keystone of the successes of our trading partners, who have long recognized that sensible and systematic government intervention can mean the difference between success and failure in the global market place.

For many years--and even today--free market purists in academia and in the media threw up their hands in horror at the prospect of public and private sector cooperation. They particularly reject any hint of government intervention in the economy. They conveniently overlook the fact that government already intervenes in the market place: government is the largest supplier of credit, the most dominating regulator, the chief international negotiator. But its interventions are sporadic, often without adequate knowledge of the consequences, and usually without relating its various interventions to each other.

It seems to me to be long overdue that government exercise these massive powers systematically, knowledgeably, and in concert with the private sector, not in ignorance of it.

And this kind of partnership should not be based on political clout, or hastily patched together to meet emergencies. It should be permanent, continuing, broadly representative, directing its attention to the whole spectrum of America's economy.

I believe that these needs will best be met by Title X of S. 374, America's Living Standard Act of 1987, which would establish a Council on Competitiveness.

It meets a number of criteria which I believe are necessary if the Council is to achieve its goal.

First, it is a permanent organization, in recognition of the fact that we will be confronting the global challenge for the indefinite future.

Second, its duties and responsibilities are broad enough to meet the manifold elements which comprise the competitiveness challenge, ranging from meeting the need for better information and monitoring our industrial performance, to developing recommendations and building consensus agreements for future action.

Third, its members are appointed by the highest officers of our government, giving the Council an appropriate degree of prominence and attention and recognition.

Fourth, the Council will represent all sectors of society, including state and local government, and will be able to reach out beyond government agencies for needed staff skills and experience.

Fifth, it will have the authority to establish subcouncils, in order to focus attention on the problems of individual sectors or areas, in recognition of the fact that micro-problems often need micro-responses.

It is important that the Council be able to function in relative independence of the government. By enabling the Council to choose its own staff, and by providing it a budget to pay for staff and needed consultants, the proposal largely accomplishes this goal.

However, if the Council is independent of government, it should not be ignorant of government concerns, or unaware of government plans. For this purpose, I would urge that four Cabinet Officers be appointed ex officio members of the Council, including the Secretaries of Commerce, Labor and Treasury and the U.S. Trade Representative.

It is important, too, that the private sector members be truly representative of the sectors their appointments are derived from. For this reason, I recommend that a clause be added requiring that the appointing officers consult with the principal associations in each of the sectors prior to making the appointments.

Mr. Chairman, the competitiveness problem, although it has a comparatively brief history, is likely to remain with us for the indefinite future. It is complex and comprehensive. We will not be able to solve it overnight, but we must start immediately. I believe that it is imperative to enlist the talent, the experience and the support of the private sector in our efforts. The Council on Competitiveness could become the keystone of this cooperative effort, and it deserves the support of the Congress.

EXECUTIVE SUMMARY

U.S. Competitiveness and Governmental Organization

Testimony of Alexander B. Trowbridge on April 7, 1987, before the Senate Committee on Governmental Affairs.

The National Association of Manufacturers essentially agrees with the definition of competitiveness formulated by the President's Commission on Industrial Competitiveness. This holds that competitiveness is the ability of a nation to produce goods and services that are successful in international markets while at the same time maintaining or improving its standard of living. The association views the dramatic deterioration in America's trade account and current account as evidence of an economic crisis.

Leadership in the form of a Presidential commitment to competitiveness will be necessary to address this crisis. In addition to the most urgent step of reducing the Federal budget deficit, improving American competitiveness will require the understanding that manufacturing is the key to U.S. international trade and an appreciation of the goals we are going to have to meet. The NAM believes we should establish as a national goal the achievement of a trade surplus through trade competitiveness.

Government cannot do it all. Government, however, does exert more influence on our economy than anything else we can control, and the character of that influence depends directly upon the organizational structure of government itself.

The NAM supports the establishment of a Department of Trade and Industry. This department should have responsibility for negotiating international agreements, for implementing U.S. trade laws, and for analysing U.S. competitiveness in all industrial sectors. This would provide greater efficiency, and it would serve to highlight for Americans and for others the importance that the United States attaches to ensuring that U.S. international trade serves U.S. economic interests.

The NAM also believes that there is merit in establishing a Council on Industrial Competitiveness, so long as this is truly a high level advisory body and not an operational one. In addition, we support requiring competitiveness impact statements for legislation and major policy initiatives, and we see merit in establishing a national trade data bank.

NAM

STATEMENT OF

ALEXANDER B. TROWBRIDGE
PRESIDENT
THE NATIONAL ASSOCIATION OF MANUFACTURERS

ON

U.S. COMPETITIVENESS AND GOVERNMENTAL ORGANIZATION

BEFORE THE

UNITED STATES SENATE
COMMITTEE ON GOVERNMENTAL AFFAIRS

APRIL 7, 1987

Mr. Chairman, Members of the Committee, I am Alexander Trowbridge, the President of the National Association of Manufacturers. The subjects you are considering this morning could not be more important or more timely. For that reason I would like both to commend the Committee for holding this series of hearings and to thank you for affording me this opportunity to share with you the views of American manufacturers on some of the issues before you.

NAM is a voluntary business association of over 13,500 companies, large and small, located in every state. Our members range in size from very large to very small companies. They include more than 9,000 small manufacturing firms. NAM companies produce more than 80 percent of our nation's manufactured goods and employ approximately 85 percent of U.S. industrial workers.

DEFINITIONS OF COMPETITIVENESS

In your letter of invitation to this hearing, Mr. Chairman, you asked:

> How should the "competitiveness problem" be defined?

I should like to discuss this question before turning to those portions of the bills you referred to on which NAM can comment. This is really two questions. The first is, what is competitiveness? And the second is, is it a problem? At the very simplest level, competitiveness, which is an international concept, is the ability to sell one's goods and services in the international marketplace. Inasmuch as more than 70 percent of everything Americans produce has to compete with foreign products, either in the United States or abroad, few people today need reminding that the international marketplace is where most of our products are sold, and that for most products, the U.S. market is only a geographical segment of the international market.

For individual firms, this relatively easy definition of being able to sell against foreign competition may be enough. For nations it is not. This fact was clearly recognized by the President's Commission on Industrial Competitiveness. Their report, as you know, defined competitiveness this way:

> Competitiveness is the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets, while simultaneously maintaining or expanding the real income of its citizens.

It is this national definition of competitiveness that should concern us. In a real sense it is not firms or governments or educational institutions that compete in the international economic arena. It is societies. We are not interested in competitiveness or trade that does not serve the interests of the American people.

COMPETITIVENESS, PROBLEM OR CRISIS

The debate as to whether we are in the midst of a decline of American competitiveness continues. There are still some who quarrel with that characterization of the last two decades. By and large, however, there is broad agreement that the competitive edge is now all too frequently to be found abroad. From the point of view of NAM's members, this is more than a problem.

Not long ago we conducted a survey of our Board of Directors in which we asked them if they believed that America's flagging competitiveness, characterized by a 1986 trade deficit of $170 billion, constitutes a national crisis. Overwhelmingly, these business people said yes.

Our Board of Directors and our members are convinced that major steps need to be taken to deal with this crisis. Many of these are set out in our pamphlet "Competing in the Global Economy," which I have included as an attachment to my testimony. Indeed, the first three steps we have identified as critical to improving America's competitiveness are not directly related to U.S. trade policy. They are first, a clear and highly visible commitment by the President to enhancing American competitiveness; second, a recognition that manufacturing is the key to this crisis; and third, a reduction in the federal budget deficit.

I think it is appropriate in this context to note that NAM was pleased by the emphasis given to competitiveness in this year's State of the Union message and by the fact that the Administration has developed and sent to Congress its initial blueprint for a more competitive America, the "Trade, Employment, and Productivity Act of 1987", S. 539.

MANUFACTURING IS THE KEY

This is a point that needs considerable emphasis. Manufacturing is the heart of U.S. trade. In 1986 manufactured goods accounted for 68 percent of U.S. exports and 75 percent of U.S. imports. Our trade deficit in manufactures, approximately $145 billion, was equal to fully 85 percent of the total 1986 trade deficit.

Any significant improvement in U.S. trade will ultimately have to come from improvement in our trade in manufactured goods. Trade in agricultural products and trade in services are important, but neither has the economic potential to turn our trade or current account deficits around. Manufacturing is the key.

It is important to recognize that the U.S. trade deficit in manufactures is not simply the result of increased imports of basic-industry products. Evidence of erosion in U.S. industrial competitiveness can be found in virtually every industrial sector. Nothing illustrates this point better than the shift in our trade balance in high-technology products. America's 1981 $27 billion high-tech surplus slipped to a surplus of only $5 billion in 1985 and then to a $2 billion deficit in in 1986.

A LONG HAUL

There has been little in the 1987 trade statistics to offer any encouragement, but the generally accepted view that we will see an improvement in 1987 on the order of $10 billion or more is probably correct. This break in a string of record U.S. trade deficits may create a tendency to see America as having turned the corner on trade, with our worst troubles now behind us. Unfortunately, the trouble is still developing.

The broader measure of our international economic performance is the current account. Here the 1987 deficit is likely to be worse than 1986's $140 billion. As most people know and as we will all come to understand more profoundly in the future, our habit of buying more from foreign countries than we sell to them has been financed with foreign borrowing, and the bills are coming due.

The New York Federal Reserve Bank expects that this debt will rise to half a trillion dollars by 1990 and that servicing it at today's interest rates will cost $35 to $45 billion annually. Even if our manufactured exports grow at a rate of 10 percent a year for the next three years, it will take 20-25 percent of our exports just to pay the interest on the debt.

A TRADE SURPLUS

Clearly, we are going to need a trade surplus. It is our view, expressed in a recent resolution of our Board of Directors, that a trade surplus through trade competitiveness, i.e., not through protectionism, should be a national goal. A copy of this resolution is included as an attachment to my testimony.

In urging the goal of a trade surplus, our directors have noted that, "This will be necessary to achieve the long-range goal of a sustainable balance in the U.S. current account over time." It is encouraging to see that this essential conclusion is mirrored in the trade legislation now being developed. H.R. 3, the highly publicized House bill, is expected to say, for example, that it is "essential that the U.S. pursue a broad array of domestic and international policies to ensure future stability in its external trade...."

THE ROLE OF ORGANIZATION

Another question at the end of your letter, Mr. Chairman, was whether the bills you mentioned provided sufficient remedies for the problem. If the problem is in fact the host of problems associated with making America more competitive, the answer is of course not. Each, however, contains ideas that can help.

From strongly interventionist Democrats to very "hands-off" Republicans, I suspect most Americans agree that government can only do so much. And as I have said, it is not governments but societies that compete. Government, however, exerts more influence on our economy than anything else we can control, and the character of that influence depends directly upon the organizational structure of government itself.

WE NEED A DEPARTMENT OF TRADE

The National Association of Manufacturers has for many years been convinced that many of the problems that have beset us in international trade could have been avoided, or their harm to U.S.

economic interests lessened, had we been better organized to deal with them. Specifically, we believe that we need a department of trade, modeled along the lines of the Department of International Trade and Industry described in S. 330.

This idea is hardly a new one. It has been with us for some time, and it will be with us as an idea until it becomes a reality. Unfortunately, whenever a trade department is discussed, the question arises: is the advocacy of a new department a criticism of those who currently administer U.S. trade policy? I cannot speak for others, Mr. Chairman, but for us this is simply not the case. We believe that the current team has made great strides in dealing with the difficult international economic conditions that we now confront.

The National Association of Manufacturers was pleased with the September 1985 Plaza Hotel Agreement and with the general thrust of U.S. exchange-rate policies in the period that followed that agreement. We supported the semiconductor industry's Section 301 petition, and we commend the U.S. government for the manner in which this case has been handled. We urged the Administration to put a Presidential spotlight on competitiveness and to submit a trade bill this year. These things have been done. My purpose in citing them is not to suggest that we have no differences with the Administration, but to underscore that it is not these frustrations or dissatisfactions with individual officials that lead us to support a trade department. Our motivation is more long range. Our concern is the ability of the U.S. government to fashion and implement trade policies that really do serve U.S. interests.

One does not have to look very far back to demonstrate that the current structure has not been working. Whether one's subject is the exchange rate--where we endured costly years of not having a policy--export controls, export finance, or the Foreign Corrupt Practices Act, it is easy to find examples of seriously flawed policies that came about in part because America does not have a trade department or a secretary of trade.

Before leaving the subject of export finance, I think it is important to note the effort in the Senate Budget Committee to do away with EximBank's direct loan program. Of course NAM opposes this. In a year in which Congress is trying to pass a major legislative package to improve U.S. trade and export policies, it would be a sad irony if a Senate committee undermined the most positive government program directly supporting U.S. exports. In other industrial nations, official export financing is virtually an entitlement program. This is not the status NAM seeks for EximBank, but we do believe that an adequately funded EximBank is necessary to protect and advance our trading interests.

Returning to the larger issue of a trade department, governmental departments are, among other things, expressions of national priorities. Yet we do not have a senior cabinet officer for trade, one who can command the resources of a full government department and who is charged with defending and advancing American trading interests.

At the very least, such an official could and almost certainly would make two critical contributions to U.S. policy. He or she, simply by bearing the title, would establish the fact that the United States is paying attention to trade in a way that we have not done before. Second, the existence of a trade department would ensure that the trade and competitiveness implications of events and prospective policies would get high level consideration.

In practical terms a trade department would greatly enhance the efficiency of government because it would combine within a single institution the responsibility for negotiation of international trade agreements, the implementation of U.S. trade laws, and analyses of U.S. competitiveness in all industrial and service sectors. Having these responsibilities in two separate agencies, as we now do, cannot help but render more difficult the conduct of U.S. trade policy.

I had hoped to avoid the issue of timing, the question of when a new department should be created. It is not critical that we establish a trade department this year, and I would be the first to acknowledge that there would be costs to doing so. I would note, however, that there seems every likelihood of actions being taken this year that express the underlying frustration that many in Congress seem to feel over the current role of the U.S. Trade Representative. Bills pending in both the House and Senate would authorize and/or direct the USTR to assume responsibilities now vested in the President. In short, these bills would treat the USTR more like the head of a department and less like an unencumbered advisor. Even if enacted, these proposals will not solve the problem. If Congress wants a trade secretary, it is going to have to create one.

On a related point, I believe that S. 330 takes the right approach by creating the new position of Advisor to the President for International Economic and Financial Policy. That proposal makes sense both because the advisor's scope goes beyond simple trade policy and because the advisor is only an advisor, not a negotiator or large-scale administrator.

A COUNCIL ON INDUSTRIAL COMPETITIVENESS

Another new idea I would like to talk about is the proposal for a Council on Industrial Competitiveness such as is proposed in Senator Bingaman's bill, S. 374. The idea that there should be a permanent, prestigious body concerned with global competition and America's economic future is meritorious indeed. There is a gap today between our faith in markets and the chilling wisdom of Proverbs, "Where there is no vision, the people perish." It is a gap that a high-level body, respected by the President and the Congress, could fill, or begin to fill. A Council on Competitiveness could be relied upon to provide fresh thinking and occasionally to lend support to important ideas that, absent a respected neutral advocate, might not be politically viable.

It would, however, be a mistake to give an independant council operational responsibilities as the current version of S. 374 does. The job of a body of this type should not be to pass on, or even advise on, individual requests for assistance. Responsibilities of that type simply duplicate decision making processes that are better located elsewhere in the government, and they detract from the broad policy concerns that are the principal justification for a Council on Industrial Competitiveness.

TRADE IMPACT STATEMENTS AND DATA BANK

Mr. Chairman, we are still considering some of the proposals you forwarded to me along with your letter of March 30. There are some ideas, however, which I have no hesitation endorsing at this time. One of these is the proposal for trade impact statements to be prepared by government departments. As described in S. 489, these would be required in connection with major administrative actions and for administration comments on legislation.

Another very good proposal is the one for a National Trade Data Bank. Most of the information to be collected and made available by this agency has a clear potential for helping both policy makers and business people. This is the kind of initiative that government should undertake in the national effort to enhance American competitivenes.

CONCLUSION

You asked in your letter of invitation, Mr. Chairman, what government should do to maximize U.S. competitiveness. I have commented on only a few such actions, though others are listed in the attached 12-point competitiveness program. In a larger sense, however, it is not possible to give an exhaustive answer to this question. It is one we and our children will be concerned with for many, many years to come. The important thing is that we accept the challenge that faces us and commit ourselves as the President recommended, "[to entering] the next century having achieved a level of excellence unsurpassed in history." Government cannot do it all. But, to quote the President again, we should ensure that "Government does everything possible to promote America's ability to compete."

Thank you for the opportunity to testify this morning. I would be happy to respond to questions.

APPROVED BY NAM BOARD OF DIRECTORS
FEBRUARY 6, 1987

Resolution on A National Goal: A Trade Surplus Through Trade Competitiveness

Whereas the United States has suffered a serious erosion of industrial competitiveness in the 1980s, reflected in a cumulative trade deficit for the 1980-1986 period of $630 billion and a 1986 trade deficit of $170 billion;

Whereas manufactured goods represent the heart of U.S. trade, currently accounting for 68 percent of U.S. exports and 75 percent of U.S. imports, with the U.S. trade deficit in manufactures equal to 84 percent of the total trade deficit;

Whereas the trade accounts of other leading industrial nations are characterized by trade surpluses in manufactures trade;

Whereas the United States is now the world's foremost international debtor, with the implication that the United States will ultimately need to generate trade surpluses (The New York Federal Reserve has estimated that U.S. foreign debt will reach $500 billion by 1990.); and

Whereas America's role in the world, the existence of global rather than national markets in many product areas, and the growing interdependence of national economies and corporate structures, and the fact that the U.S. market has become the largest and most global market of all have together attracted a concentration of unfair foreign trade practices and unfair foreign targeting aimed directly at the U.S. manufacturing base;

Therefore be it resolved that the National Association of Manufacturers believes that the U.S. Government and U.S. business should make the achievement of a trade surplus through trade competitiveness an economic goal of the United States. This will be necessary to achieve the long-range goal of a sustainable balance in the U.S. current account over time. Increased U.S. competitiveness, which is the heart of these goals, should be expressed through increased U.S. exports and an end to U.S. and foreign government interventions that penalize the competitiveness of U.S. products. Accordingly, it is essential that U.S. government policy attack trade barriers to U.S. products abroad and unfair targeting at U.S. domestic markets.

Recognizing that in large measure competitiveness depends upon reducing the federal budget deficit, securing and maintaining properly aligned exchange rates and reciprocal market access, be it further resolved that the U.S. Government should make the achievement of these goals one of its highest priorities; and

Be it further resolved that enhancing U.S. competitiveness should be a touchstone for future legislation and other major policy initiatives. Accordingly, the NAM urges the Congress and the Administration to take into account the effect on U.S. competitiveness in the drafting of legislation and the development and implementation of Administration policies.

NAM

Competing in the Global Economy

A Program of
the National Association of Manufacturers
March 1987

MANUFACTURING
CREATES
AMERICA'S
STRENGTH

Foreword

The biggest challenge the nation faces today is how to compete more successfully in world markets while maintaining and expanding our standard of living.

The NAM has developed a twelve point program that can help us become more productive and competitive. The first step is developing a national commitment to competitiveness. Other steps at the public level include reducing the budget deficit, putting in place an exchange rate system that reflects national competitiveness, and adopting and pursuing stronger trade policies. We feel that it is equally important for corporations to continue efforts to improve competitiveness at the firm level. Finally, we stress the need for measuring all that we do in terms of its impact on U.S. international competitiveness.

The elements of our program, "Competing in the Global Economy," are based in part on a survey of NAM Directors conducted in September 1986. We are anxious to work with you to perfect this program and to take the legislative and regulatory actions necessary to improve American international competitiveness.

Alexander B. Trowbridge
President
National Association of Manufacturers

COMPETING IN THE GLOBAL ECONOMY

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Building on Strength

Jerry J. Jasinowski
Executive Vice President
National Association of Manufacturers
February 6, 1987

The World Has Become More Competitive

Today we live in a global economy that has become radically more competitive:

- One-fifth of our economy is directly involved in international trade, and over 70 percent of products we produce have to compete with foreign goods.

- Tough new competitors have emerged from the Pacific Basin to South America. They have the capital and the technology to compete across the industrial spectrum. They have the advantage of a lower wage base, in many instances dramatically lower. More importantly, these countries have organized themselves with the conscious goal of being successful international competitors, and they do not always play by the rules we recognize. Often, their governments support industry to a much greater extent than in the U.S.

- Instead of the supply shortages predicted by the Club of Rome, we now have a world economy characterized by excess supplies in many industrial materials, commodities and goods. As countries try to maintain their standard of living by exporting more, global over-supplies in a deflationary environment will further increase competition.

- International capital movements and fluctuating exchange rates have become primary determinants of the cost structure and trade position of most countries. Given the importance of the dollar to the world financial system and the growth of world debt with its associated export imperative, there are strong incentives for countries to manipulate their currencies in search of competitive advantage.

Where the U.S. Stands Competitively

Competitiveness is a term that is on everyone's lips, but what it means and where the United States stands is a matter of vigorous debate. Some say the United States is as competitive as it has always been. Others suggest we are facing a competitive crisis.

To compete means to strive or contend against others for profit or prize. For a nation, competitiveness is the ability to match ourselves against other nations economically. There are six broad criteria for measuring how well a nation competes: economic growth, price stability, employment, efficiency, the merchandise trade balance, and the broader balance of payments on current account.

While the U.S. economy has performed well in recent years by many domestic criteria--economic growth, price stability, and employment--it has performed poorly in terms of our external balances. With these considerations in mind, the President's Commission on Industrial Competitiveness defined competitiveness in the following way:

> "Competitiveness is the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining or expanding the real incomes of its citizens."

This is an appropriate definition for two reasons: it emphasizes that today's economic competition is international, and it sets the objective of improving or maintaining our standard of living. While we could compete by lowering the American standard of living, that is a prescription for failure.

Recent U.S. economic performance has failed to meet this test of competitiveness. While the U.S. still has the strongest economy in the world, the day of unquestioned American preeminence may be over. Last year we had a trade deficit of $170 billion, the largest in our history. We have become the world's largest debtor nation. Our overall productivity performance and other measures of long-term competitiveness are inadequate relative to the competition we face.

The U.S. Trade Crisis

The evidence that the U.S. is too frequently a loser in international competition is overwhelming:

- Capped by a record $170 billion trade deficit last year, our cumulative trade deficits since 1982 exceed $500 billion.
- Roughly two million manufacturing jobs have been lost since 1980 as a result of our huge trade deficits.
- Last year the U.S. experienced a deficit in high technology trade for the first time in its history.
- It is estimated that by 1990 the interest on our foreign debts will amount to 5 percent of America's industrial output. Paying for this debt will divert funds that could be used to build productive capacity for the future, and may well "...reduce the annual rate of increase of real income in the U.S. over the next five years by between half a percent a year and one percent a year," according to Martin Feldstein.

The implications of these developments for America's standard of living are worrisome, but do they add up to a crisis? NAM's Board of Directors thinks they do. Few of the questions that were put to NAM's directors in a competitiveness survey distributed in September 1986 got the same answer from a majority of the respondents. One of those that did was the question: Do you believe that America's flagging competitiveness, characterized by a trade deficit of $170 billion, constitutes a national crisis? Almost all of them said yes.

Important as it is to recognize a crisis, it is just as important to understand its causes. The U.S. shift from a manufacturing trade surplus to an enormous deficit in just a few years deserves emphasis because it indicates that the cause is not the character of the American work force or American management. The current trade crisis has been due primarily to macro-economic mismanagement and adverse conditions consisting of extremely high exchange rates for the dollar, unusually high consumption centered growth in the U.S., slow growth abroad, and huge U.S. budget deficits.

Longer Term U.S. Competitiveness Problems

In addition to mounting trade deficits, there have been disturbing signs of a decline in this country's ability to compete in world markets:

- For over a decade, U.S. productivity has consistently grown more slowly than that of our competitors, and has often lagged behind our wage increases. From 1977 through 1983, America's manufacturing productivity grew one half as fast as Germany's and one-third as fast as Japan's. Although U.S. manufacturing productivity growth has improved substantially in the last couple of years, it still lags behind such growth by our major competitors, and our non-manufacturing productivity growth is dismal.

- Capital formation in the United States has consistently been a lower proportion of GNP than in other major industrial countries. Recently enacted tax reform will raise the cost of capital about 20 percent, which will cause us to fall further behind in capital investment.

- Although civilian research and development has been increasing in certain sectors of the economy, as a percentage of GNP, research and development spending still lags behind Germany and Japan.

- Despite the improvements made in firm competitiveness, NAM directors concluded that roughly half of the improvements we need to become more competitive will have to come from new initiatives by U.S. companies.

- The U.S. has broad cultural attitudes that do not place sufficient emphasis on competing internationally--in our educational institutions, among government leaders, with our workers, and the public in general.

A STRATEGY FOR COMPETITIVENESS

As the nation moves to establish improved competitiveness as a national priority, the steps to achieve that goal will be debated and refined. There is no single, quick-fix solution. We do understand the problem reasonably well, however, and we know many of the steps that should be taken.

What we need to do now is to forge a coherent strategy for competitiveness from the array of public and private actions that will have to be taken. The only strategy that will work is one that depends upon and encourages individuals to strive for excellence, that recognizes the need for teamwork, and that utilizes the strengths of the free-market system. Finally, it is a strategy that will depend upon our ability to create new comparative advantages from creative cooperation between government and the private sector. At the least, a more intelligent and supportive government role will be required in many areas, such as technology transfer, regulatory reform, exchange rates and trade policy.

The following 12 points are the major practical elements of such a strategy. They are, of course, only a beginning.

1. A National Commitment to Competitiveness

Historically, the United States has focused most of its energies and resources on domestic economic and social concerns and national defense. Given the realities of the global competition we now face, however, keeping America competitive will have to be a priority second-to-none. Our standard of living and our national security both depend upon improving our international competitiveness.

We need to understand that competitiveness relates to the society as a whole. It is societies that compete for living standards, security, power, and prestige--not just governments, nor firms, nor workers. Any discussion of American competitiveness that is not concerned with our values and priorities as a society will miss the mark.

Virtually all NAM Directors believed that the single most important thing that could be done would be a commitment to competitiveness on the part of the President. This can serve to focus the attention and resources of our nation on this critical problem in much the same way that President Kennedy's commitment to putting a man on the moon did for an earlier generation.

Such a commitment requires specific goals. One goal broadly supported by our directors is a trade surplus through competitiveness in five years. Given estimates that by 1990 the United States will owe half-a-trillion dollars to foreigners, we are going to need a trade surplus just to pay our bills.

Such a commitment also requires a consensus by everyone. That will not just happen. It is going to take a lot of consensus building first. Consensus building is difficult, but the new Council on Competitiveness, chaired by John Young and supported by the NAM, is a key mechanism for bringing business, labor, and universities together.

2. Manufacturing is the Key

NAM Directors were nearly unanimous in their view that greater recognition should be given to the role of manufacturing in trade and competitiveness. Roughly four-fifths of the U.S. trade deficit is in manufactured goods, which means that we must compete through manufacturing. Finally, others, too, are beginning to emphasize that manufacturing is the key to U.S. international competitiveness:

> "American performance in manufacturing is going to set the country's standard of living as it struggles out of its gigantic trade deficit."
> WASHINGTON POST

> "Our strength in trade depends upon our strength in manufacturing."
> NATIONAL JOURNAL

The Chairman of the Federal Reserve, Paul Volcker, goes a step further, suggesting that manufacturing output will have to grow 30 percent over the next five years to correct our trade imbalances. In a speech at Yale University, he concluded that manufacturing industry is going to have "...a lot more to do with the basic health of the American economy and the American nation."

Manufacturing is central to U.S. economic development for reasons beyond trade. For example:

- Manufacturing is the primary arena for technological innovation.
- Manufacturing productivity gains are three times greater than in the service area and the general economy.
- Manufacturing is the primary creator of demand for services. "If your manufacturing industries go down the drain, most of the service industries will go down with them."
  LESTER THUROW

Given that we have overlooked the contribution manufacturing can make to our international competitiveness and economic health, a joint Congressional Resolution emphasizing the importance of manufacturing to the economy is merited.

3. Reducing the Budget Deficit

The single most important public policy step that could be taken to reduce the U.S. trade deficit is to reduce the budget deficit, NAM Directors said. This conclusion agrees with economic analyses showing that budget deficits and macro-economic imbalances have dramatically increased the trade deficit in three major ways:

- U.S. budget deficits have raised real interest rates, the primary factor responsible for capital inflows and the overvaluation of the dollar. The rise in the structural budget was responsible for approximately two-thirds of the appreciation of the dollar from 1982-85.
- U.S. budget deficits raised the U.S. growth and consumption rates substantially above our competitors, dramatically increasing the flow of imports into the United States.
- Budget deficits have also raised the cost of capital in the U.S., making it more difficult for capital intensive firms to compete internationally.

While budget deficits must be reduced, care must be exercised so that economic growth is not sharply depressed. Three steps are appropriate:

- Continued efforts to restore the automatic mechanism of Gramm-Rudman and to adhere to the targets for deficit reduction.
- An aggregate freeze on federal spending for fiscal 1988 to equally distribute the pain of deficit reduction.
- And the maintenance of a monetary policy that supports continued economic growth.

In addition, a bipartisan Economic Summit should be considered by the Administration and Congress. The purpose of such a summit would be to reconcile divergent priorities attached to entitlements, Social Security, national defense, and tax policy. All major components of the budget would be on the table.

4. Exchange Rate Adjustments

"The primary reason for our deteriorating trade imbalance was the 70 percent rise of the dollar that occurred between 1980 and the spring of 1985. This unprecedented increase in the dollar dramatically increased the price of American products relative to foreign products, causing the volume of U.S. exports to decline while merchandise imports have increased by nearly 50 percent."
MARTIN FELDSTEIN

NAM Directors agreed that exchange rate adjustments were an area of public policy where trade competitiveness could be substantially improved.

While there has been significant progress with respect to improving the exchange rate of the dollar with Japan and Western Europe, little progress has been made with respect to the currencies of our other major trading partners. The following steps would improve exchange rate conditions and stability:

- Reduce federal budget deficits in order to lower interest rates that artificially hold up the value of the dollar.

- Conduct vigorous bilateral negotiations with countries where there has been no exchange rate improvement, such as Taiwan, Korea, and Hong Kong. The Canadian dollar and the Latin American currencies have also not appreciated against the dollar. Further thought and attention are required respecting these currency relationships.

- Make further efforts to strengthen the coordination of international economic policy among the major industrialized countries, in part to stabilize exchange rate fluctuations, but in the current context also to encourage Germany and Japan to pursue policies that will achieve higher levels of growth.

- Explore the possibility of establishing a new exchange rate system within the IMF surveillance framework. Although a fixed-parity Bretton Woods system seems unattainable under present conditions, other alternatives should be explored. The U.S.-Japan "target zone" experience should be carefully monitored for lessons for the future.

5. Strengthening Trade Policies and Promoting Exports

NAM Directors believe that we need to act in three broad ways: to improve the international trading system and access to foreign markets, to boost U.S. exports, and to enhance the effectiveness of U.S. import laws.

Government needs to look at the trading system as it affects U.S. manufacturers and take the following actions:

- Press other GATT countries for meaningful improvements in the GATT in the context of the Uruguay Round of Multilateral Trade Negotiations. Congress should enact this year negotiating authority that gives U.S. negotiators the strongest possible hand.
- Pursue vigorously a free-trade-area agreement with Canada that advances the economic interests of U.S. industry.
- Establish a joint business-government market development program targeted on Japan and modeled on the highly successful Market Development Cooperation Program, which was established by the Agriculture Department in the 1950s. The costs should be shared by government and the private sector.
- Insist that foreign governments remove their unfair trade barriers and discontinue their unfair practices. To this end, Section 301 of the Trade Act should be improved and the U.S. Trade Representative given more power to act directly against foreign unfair policies. Executive Branch discretion under this statute, however, should be retained.

U.S. export policies constitute the second major area of concern. As soon as possible, government should:

- Cut back the export control list and otherwise work to lessen the burden of U.S. export controls. The National Academy of Sciences has estimated that national security export controls alone inflict an annual cost of $17 billion on the U.S. economy.
- Offer American companies the financing support they need to make them competitive with foreign manufacturers that benefit from effective and determined government financing programs. EximBank funding should be based on a realistic assessment of U.S. industry needs, bearing in mind that America's strength as a major international producer of capital goods is largely dependent upon financing. Mixed credits, similar to those provided by our competitors, should be utilized.

- Undertake new efforts to open foreign telecommunications markets to U.S. products.

- Enact legislation clarifying the provisions of the Foreign Corrupt Practices Act so that U.S. companies do not lose legitimate business opportunities overseas.

U.S. policies on imports also need a new look. Government should fully enforce our existing trade laws and should at least make the following improvements in those laws:

- Amend Section 337 of the 1930 Tariff Act so that U.S. owners of patents, copyrights, and other intellectual property do not have to meet essentially irrelevant economic tests in order to protect themselves from infringing imports. We must end the piracy of U.S. property rights by foreign competitors.

- Improve the U.S. escape clause. U.S. industries being hammered by imports and other difficulties should not have to prove that imports are the biggest problem facing them to get import relief. The law should be made more effective for those who find themselves in critical circumstances.

- Review U.S. antidumping law with the aim of making prudent and effective improvements. The current antidumping law is inadequate, but some of the recommendations that have been offered to amend it would do more harm than good. These kinds of suggestions must be rejected, but the search for positive antidumping reform must continue both in the Congress and through U.S. participation in multilateral negotiations.

- Tighten U.S. law against imports that threaten national security. Section 232 of the Trade Expansion Act should be changed so that petitioners are assured of Administration responses to their petitions within a definite period.

6. Toward Greater Corporate Competitiveness

Improving our ability to compete at the corporate level is crucial because that is where we make and sell the products. Enormous progress has been made, which belies the notion that U.S. corporate competitiveness is declining. Manufacturing productivity has risen sharply since 1980 and U.S. multinational manufacturing firms have maintained or increased their share of world export markets:

> "If we wish to explain our national trade problems, we should look for reasons other than the decline of our companies' technology and management. We should be asking whether developments and policies specific to the United States have been making the country less attractive as a location for manufacturing."
> (Economists) LIPSEY and KRAVIS

Notwithstanding this point, NAM Directors felt that, depending upon the industry, 25 to 50 percent of the improvements in international competitiveness will have to come from changes in corporate policies and practices. The priorities for achieving further gains were:

- Reduce further corporate costs at all levels by corporate restructuring, reducing employee costs, improved materials and inventory management, improved work rules and efforts to increase productivity.

- Continue to improve quality and services by listening to the customers and taking actions to increase value and differentiate yourself from competitors.

- Improve the manufacturing process by elevating the corporate priority given manufacturing. Greater emphasis should be put on making the right hardware and systems decisions necessary to achieve a sustainable manufacturing advantage. NAM's new video program, "Competing Through Manufacturing," illustrates the importance manufacturers place on this area.

- Gain a greater employee commitment to competitiveness by sharing information, recognizing that people are the main source of ideas and productivity gains, gaining acceptance of more flexible work rules, providing positive reinforcement for successes, and developing a team pride in the organization.

- Greater research and development investment, the encouragement of innovation throughout the organization, and the more rapid development of new products.

- And market more aggressively abroad, through a stronger export orientation, and by establishing production facilities abroad to serve foreign markets.

Restructuring the corporation is a part of many of the above priorities, and, therefore, it is an important aspect of what corporations are doing to become more competitive. Although large mergers have received a lot of attention, a more important trend has been divestitures as corporations strive to sharpen their competitive focus in order to cut costs and gain market share. This has also meant a much more aggressive marketing and sales program.

7. Reducing Government Regulatory and Mandated Costs

NAM Directors believe that one of the most important things that government can do to improve productivity and international competitiveness is to reduce government imposed regulatory and mandated costs. All new proposals should be evaluated in terms of their costs and benefits relative to international competitiveness. There are several important actions that can be taken in this area:

- Enact a U.S. product liability reform bill to reduce insurance premiums and settlement costs, which are substantially higher than those in other countries. 1984 costs for product liability suits in the United States were $56 billion.

- Avoid shifting government costs to the private sector. Government should not mandate new social programs that business will have to pay for such as comparable worth, family and medical leave, and new health benefit programs.

- Analyze carefully new proposals for acid rain controls and seek alternatives that would not disproportionately raise electricity and manufacturing costs.

- Reform the antitrust laws by recognizing the reality of international competition. Antitrust actions should be limited to actual damages. Sections 7 and 8 of the Clayton Act should be amended. It is important to distinguish between pro-competitive mergers and other mergers, and the unwarranted restrictions on interlocking directorates should be removed.

- Take a new look at the Federal regulatory structure with a view to eliminating unnecessary regulations and improving the cost-effectiveness of those that are needed.

8. Increasing Savings and Investment

The U.S. is a high-consumption, low-saving, and investment society, and this hurts our ability to compete with other nations, NAM Directors said. The U.S. propensity to consume and import is much higher than our competitors. The American savings rate is the lowest among industrial nations and has recently fallen to the unprecedented low of 2.8 percent of disposable income. This low saving rate, seriously aggravated by government dissaving associated with government deficits, contributes to the overvaluation of the dollar and reduces the funds available for investment. Recent tax changes have greatly aggravated the problem by encouraging consumption spending while penalizing saving and investment. Taken together, these factors reduce our productivity growth and our ability to compete in world markets.

Several steps can be taken to increase national saving and investment:

- Reduce the budget deficit, thereby freeing more savings for productive investment.

- Liberalize IRA deductibility and reduce taxation on interest earnings.

- Eliminate depreciation from the alternative minimum tax and review other alternatives for encouraging investment, such as a limited investment tax credit for machinery used directly in manufacturing.

- Begin in earnest the national debate on the merits of a broad-based consumption tax, such as a value-added or business transfer tax. Taxes of this type would have the benefits of increasing private saving, reducing the public dissaving associated with the budget deficit, and improving American competitiveness through rebatability on exports. Canada and Japan, our largest trading partners, are considering joining 44 other nations which use a form of value added tax.

9. Encouraging Technology and Innovation

While the U.S. continues to be the world's leader in the development of new technologies, U.S. industry is often slower than its competitors in commercializing new technology. NAM Directors felt action should be taken to encourage more rapid commercialization of technology. The bulk of this problem must be dealt with by the private sector, but there are several steps government can take to maintain our comparative advantage in technology and innovation:

- Accelerate defense R & D spin-offs and allocate more of our Federal spending on research and development to non-defense efforts.
- Put a high priority on developing and disseminating technology on advanced manufacturing techniques. Federal laboratories can be encouraged to conduct research in areas such as that performed by the National Bureau of Standards in its Automated Manufacturing Research Facility. Additional public and private funding could be provided for the expansion of the National Science Foundation's programs in engineering and manufacturing technology, such as the Engineering Research Centers and the Industry/University Cooperative Research Centers.
- Increase industry access to the results of Federal research and development activities. The capabilities of the National Technical Information Service to inform manufacturers of the availability of government-developed research results could be expanded. In addition, there should be full implementation of the the Federal Technology Transfer Act of 1986. This is designed to establish cooperative efforts between the government laboratories and the private sector to bring the results of government research to commercial reality.
- Increase funding for science and technology education, particularly to those universities and colleges willing to establish departments of engineering and manufacturing technologies. More students should be encouraged to pursue careers in these fields.
- Provide greater protection for U.S. intellectual property both at home and abroad. It is imperative that effective action be taken to deter piracy and counterfeiting of U.S. products and processes. This means greater protection for commercial information, protecting copyrights and amending Section 337 of the Tariff Act to ensure that foreign exporters do not violate U.S. patents.
- Ensure adequate incentives for private R & D through making the R & D tax credit permanent and the proper tax allocation for U.S. R & D conducted abroad through reform of section 1.861 of the Treasury regulations.

10. More Stable Financial Environment

Foreign competitors, such as Japan, often outperform the U.S. because their financial system encourages greater stability and a longer-term perspective. Acquisitions and divestitures are sometimes important ingredients for becoming more competitive, but in too many cases hostile takeovers divert attention from the longer-term actions needed to improve the competitiveness of firms. Some of these actions only increase debt burdens and make a few players extremely wealthy. The following minimum actions would improve financial stability by giving shareholders and management time and information to make intelligent decisions on hostile takeovers:

- Lower the notification threshold for announcing an intention to acquire a company from 5 to 2 percent.
- Extend the time period for tender offers from 20 to 45 days.
- Require raiders to notify the target shareholders of an acquisition immediately by shortening the 13 (d) ten-day window to a period of two or three days.
- Halt the circumvention of the Williams Act by schemes that use the tender offer process to acquire shares after the tender offer is terminated.
- Give the Securities and Exchange Commission increased resources to pursue insider trading and other abuses.

In addition to these measures, consideration should be given to restricting "greenmail." A requirement that stocks be held for a minimum period before voting rights are granted might help as might giving shareholders of both the target and raider firms an opportunity to vote on an acquisition before it is completed. Finally, the Hart-Scott-Rodino antitrust law should be reviewed with an eye to extending the time frame and ensuring that mergers and acquisitions apply to partnerships.

11. Education and Training

An educated, skilled and motivated work force is an essential ingredient for improved competitiveness. Despite our many strengths, the quality of the U.S. labor force has suffered from inadequacies in our educational system, high illiteracy rates, poor math and science training, higher drop-out rates than in other advanced countries, and inadequate retraining and relocation of displaced workers. The following steps would begin to tackle these problems:

- Raise the standard of minimum education to ensure that all students master the basic skills necessary to function in a technological, highly competitive world.

- Modernize America's public education and training system. Businesses should be encouraged to approach training and retraining systematically and to integrate such programs into the planning and operation of the firm. The key to more relevant education and training is to focus efforts on future market demands and improve the linkage between employees and education and training institutions.

- Create a competent, versatile, systematic and voluntary approach to displaced workers and readjustment. Businesses should adopt policies to avoid displacement, such as the use of interplant transfers, reduced workweeks and job-sharing. If displacement is unavoidable, businesses could assist with job counseling, job search assistance, retraining for in-company transfers, outplacement assistance and providing as much notice as possible. Public and private sector readjustment programs should be coordinated and have the following attributes: broad coverage, easy access, simplicity, limited red tape, individual choice, cost-consciousness, flexibility and linkages with existing programs.

- Encourage cooperation by government, educational institutions and businesses to reduce illiteracy. The importance of a literate, educated work force cannot be overstated.

12. A Standard of Competitiveness

The above steps will be necessary to meet the challenge of increased international competitiveness. But we need to evaluate all of our corporate and public policies to determine how they impact our ability to compete. Three steps would assist this process:

- Consolidate the government's international trade into a single Department of International Trade & Industry.
- Require that all major government policies be subjected to a competitive impact statement to determine the positive and negative effects on our ability to compete.
- Establish a White House Council that would provide a continuing focus and leadership on national efforts to improve productivity and international competitiveness.

Building on Strength

While the U.S. faces serious competitive problems, we can meet the challenge. Our advantages are impressive and recent developments are encouraging:

- Our competitive market system allows the U.S. economy to change rapidly to renew itself and to meet new competitive tests. The dynamics of our market system are the envy of our competitors and our primary source of economic strength.
- U.S. manufacturing corporations have taken major steps to achieve and/or retain the status of world-class competitors.
- The Administration's actions on exchange rates are a major step toward improving U.S. international competitiveness.
- There is a growing recognition that manufacturing is the key to improving U.S. competitiveness.
- In the State of the Union message, President Reagan has for the first time made American competitiveness a national priority.

The challenge we now face is clear. At stake are American pride, our standard of living, and ultimately our security. The task before us is technically complex and complicated but simple in terms of purpose. Building upon America's strengths, we must do whatever we have to do to reestablish American preeminence as the most competitive nation in the world.